



LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING
MEMBER
of the
IESNA

905 Harrison Street · Allentown, PA 18103 · 610-770-1044 · Fax 610-770-8912 · www.LuminaireTesting.com

LTL NUMBER: 13639

DATE: 07-29-2008

PREPARED FOR: SIMKAR LIGHTING

CATALOG NUMBER: AEC24P332T8EU1

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL STEEL REFLECTORS, FORMED WHITE ENAMEL PERFORATED STEEL SHIELD WITH TRANSLUCENT WHITE PLASTIC INSERT.

LAMPS: THREE 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.

LAMP CATALOG NUMBER: SYLVANIA FO32/841/ECO

BALLAST: ONE ADVANCE ICN-3P32-SC

MOUNTING: RECESSED

LUMEN TO CANDELA RATIO USED = 9.18

TOTAL INPUT WATTS = 80.1 AT 120.0 VOLTS

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

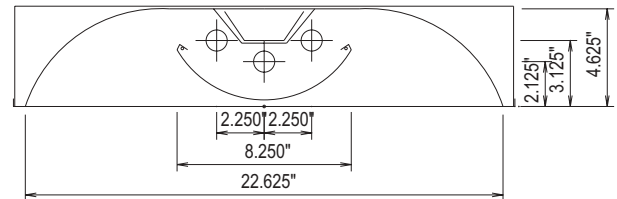
CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1480	1480	1480	1480	1480
5	1470	1470	1479	1480	1481
15	1416	1426	1443	1455	1459
25	1309	1330	1369	1402	1416
35	1157	1194	1267	1327	1344
45	964	1026	1133	1195	1213
55	732	835	940	982	995
65	469	610	663	657	662
75	217	317	296	315	320
85	47	51	62	65	66
90	0	0	0	0	0

FLUX

141
407
631
789
857
808
616
321
71

#13639



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	1179	13.8	25.4
0- 40	1968	23.0	42.4
0- 60	3633	42.5	78.3
0- 90	4641	54.3	100.0
90-180	0	0.0	0.0
0-180	4641	54.3	100.0

TOTAL LUMINAIRE EFFICIENCY: 54.3%

TOTAL REFLECTANCE OF PAINT: 85.4%

CIE TYPE: DIRECT

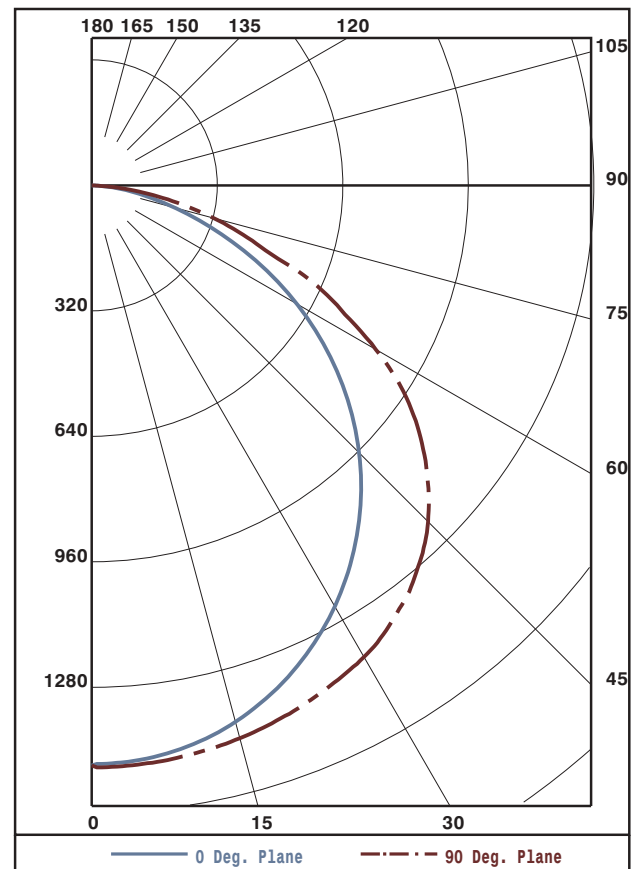
PLANE: 0-DEG 90-DEG

SPACING CRITERIA: 1.2 1.4

LUMINOUS LENGTH: 47.125 22.625

LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	2151.	2151.	2151.
45	1982.	2329.	2494.
55	1855.	2382.	2522.
65	1613.	2280.	2277.
75	1219.	1662.	1797.
85	784.	1034.	1101.



Approved By: MG



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LTL NUMBER: 13639

DATE: 07-29-2008

PREPARED FOR: SIMKAR LIGHTING

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD
EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	65	65	65	65	63	63	63	63	60	60	60	58	58	58	55	55	55	54
1	59	57	55	53	58	56	54	52	53	52	50	51	50	49	49	48	47	46
2	54	50	46	43	53	49	46	43	47	44	42	45	43	41	44	42	40	39
3	50	44	40	36	48	43	39	36	42	38	36	40	37	35	39	36	34	33
4	45	39	34	31	44	38	34	31	37	33	30	36	32	30	35	32	29	28
5	41	34	30	26	40	34	29	26	33	29	25	32	28	25	31	27	25	24
6	38	31	26	22	37	30	26	22	29	25	22	28	25	22	27	24	22	20
7	35	27	23	19	34	27	22	19	26	22	19	25	22	19	25	21	19	18
8	32	25	20	17	31	24	20	16	23	19	16	23	19	16	22	19	16	15
9	29	22	17	14	29	22	17	14	21	17	14	20	17	14	20	16	14	13
10	27	20	15	12	27	20	15	12	19	15	12	19	15	12	18	15	12	11

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1480	1480	1480	1480	1480
5	1470	1470	1479	1480	1481
10	1450	1457	1466	1470	1473
15	1416	1426	1443	1455	1459
20	1369	1383	1410	1431	1440
25	1309	1330	1369	1402	1416
30	1239	1268	1322	1370	1389
35	1157	1194	1267	1327	1344
40	1065	1113	1207	1270	1288
45	964	1026	1133	1195	1213
50	852	932	1046	1099	1113
55	732	835	940	982	995
60	604	728	812	839	836
65	469	610	663	657	662
70	336	473	479	462	458
75	217	317	296	315	320
80	123	159	172	182	183
85	47	51	62	65	66
90	0	0	0	0	0

ZONAL LUMEN SUMMARY

0- 5	35.
5- 10	105.
10- 15	172.
15- 20	235.
20- 25	291.
25- 30	340.
30- 35	380.
35- 40	409.
40- 45	427.
45- 50	430.
50- 55	418.
55- 60	390.
60- 65	341.
65- 70	275.
70- 75	198.
75- 80	123.
80- 85	58.
85- 90	12.

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25°C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.



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LTL NUMBER: 19477

DATE: 06-14-2010

PREPARED FOR: SIMKAR CORPORATION

CATALOG NUMBER: A8C22P217T8EU1

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL STEEL REFLECTOR, FORMED WHITE ENAMEL PERFORATED STEEL CENTER DIFFUSER BELOW LAMPS.

LAMP: TWO 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1350 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8-SP41-ECO

BALLAST: ONE ADVANCE "CENTIUM" ICN-3P32-SC

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.2826A, 33.67W

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	
5	558	558	559	559	559	559	559	558	558	558	559	559	559	559	559	558	53.1
15	535	538	544	549	551	549	544	538	535	538	544	549	551	549	544	538	153.6
25	492	499	514	528	530	528	514	499	492	499	514	528	530	528	514	499	236.7
35	428	442	469	497	507	497	469	442	428	442	469	497	507	497	469	442	293.4
45	348	369	415	452	463	452	415	369	348	369	415	452	463	452	415	369	316.3
55	254	287	341	379	391	379	341	287	254	287	341	379	391	379	341	287	296.1
65	156	195	240	263	272	263	240	195	156	195	240	263	272	263	240	195	223.7
75	74	91	103	104	106	104	103	91	74	91	103	104	106	104	103	91	105.9
85	16	17	18	19	19	19	18	17	16	17	18	19	19	19	18	17	21.4
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Zonal Lumen Summary

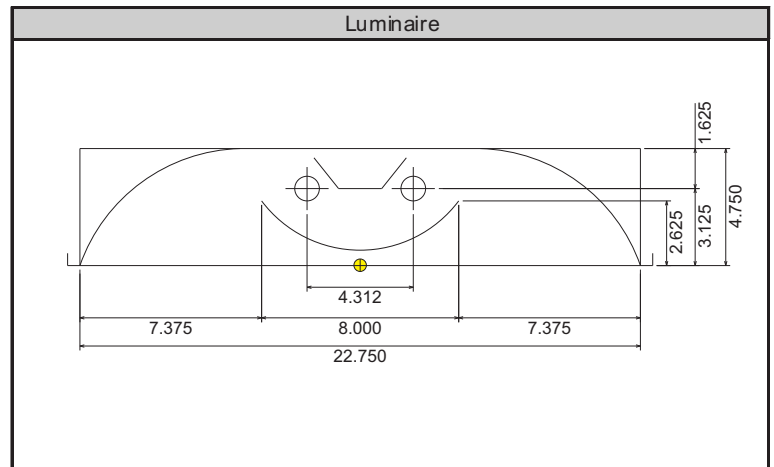
Zone	Lumens	% of Lamp	% of Luminaire
0-30	443.4	16.4%	26.1%
0-40	736.9	27.3%	43.3%
0-60	1349.2	50.0%	79.4%
0-90	1700.3	63.0%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1700.3	63.0%	100.0%

Total luminaire efficiency: 63.0%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.23 90 deg: 1.39
180 deg: 1.23 270 deg: 1.39

Total reflectance of paint: 87.6



Approved By: MG

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.



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Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560	560
5	558	558	559	559	559	559	559	558	558	558	559	559	559	559	559	558
10	549	550	553	556	557	556	553	550	549	550	553	556	557	556	553	550
15	535	538	544	549	551	549	544	538	535	538	544	549	551	549	544	538
20	517	521	532	540	542	540	532	521	517	521	532	540	542	540	532	521
25	492	499	514	528	530	528	514	499	492	499	514	528	530	528	514	499
30	462	473	493	512	520	512	493	473	462	473	493	512	520	512	493	473
35	428	442	469	497	507	497	469	442	428	442	469	497	507	497	469	442
40	390	407	443	475	488	475	443	407	390	407	443	475	488	475	443	407
45	348	369	415	452	463	452	415	369	348	369	415	452	463	452	415	369
50	302	329	381	419	431	419	381	329	302	329	381	419	431	419	381	329
55	254	287	341	379	391	379	341	287	254	287	341	379	391	379	341	287
60	203	241	294	328	337	328	294	241	203	241	294	328	337	328	294	241
65	156	195	240	263	272	263	240	195	156	195	240	263	272	263	240	195
70	111	144	174	185	175	185	174	144	111	144	174	185	175	185	174	144
75	74	91	103	104	106	104	103	91	74	91	103	104	106	104	103	91
80	42	46	51	50	49	50	51	46	42	46	51	50	49	50	51	46
85	16	17	18	19	19	19	18	17	16	17	18	19	19	19	18	17
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	13.4	45-50	158.5	90-95	0.0	135-140	0.0
5-10	39.7	50-55	153.7	95-100	0.0	140-145	0.0
10-15	65.0	55-60	142.4	100-105	0.0	145-150	0.0
15-20	88.5	60-65	124.4	105-110	0.0	150-155	0.0
20-25	109.4	65-70	99.4	110-115	0.0	155-160	0.0
25-30	127.3	70-75	67.3	115-120	0.0	160-165	0.0
30-35	141.6	75-80	38.6	120-125	0.0	165-170	0.0
35-40	151.9	80-85	17.3	125-130	0.0	170-175	0.0
40-45	157.8	85-90	4.1	130-135	0.0	175-180	0.0



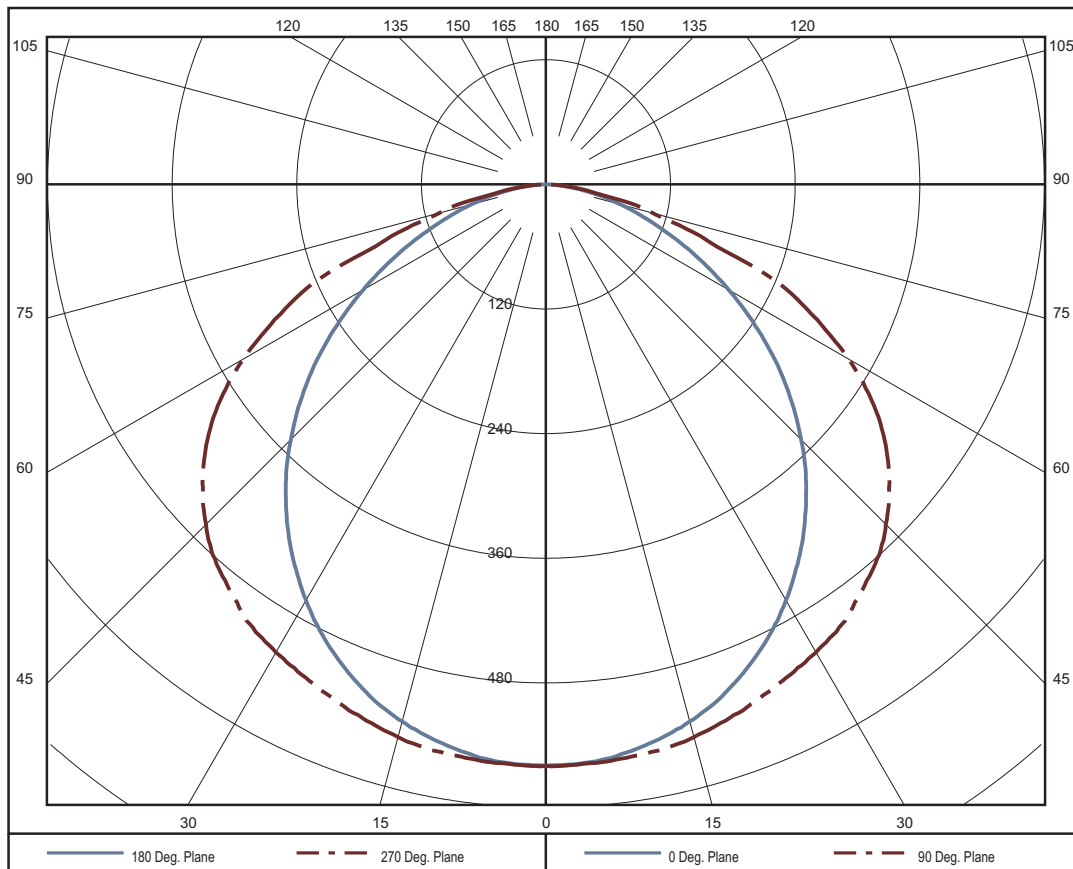
Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.768	0.768	0.768	0.768	0.75	0.75	0.75	0.75	0.732	0.732	0.732	0.732
1	0.704	0.671	0.642	0.616	0.686	0.656	0.63	0.606	0.669	0.642	0.618	0.596
2	0.641	0.583	0.537	0.498	0.623	0.571	0.528	0.492	0.606	0.559	0.519	0.486
3	0.583	0.51	0.455	0.411	0.567	0.5	0.448	0.407	0.551	0.49	0.442	0.403
4	0.533	0.45	0.39	0.345	0.518	0.441	0.386	0.343	0.503	0.433	0.381	0.34
5	0.489	0.401	0.34	0.295	0.475	0.393	0.336	0.294	0.462	0.386	0.332	0.292
6	0.451	0.359	0.299	0.256	0.438	0.353	0.296	0.255	0.426	0.347	0.293	0.254
7	0.417	0.325	0.266	0.225	0.406	0.319	0.263	0.224	0.394	0.314	0.261	0.223
8	0.388	0.295	0.238	0.2	0.377	0.291	0.237	0.199	0.367	0.286	0.235	0.199
9	0.361	0.27	0.216	0.179	0.352	0.266	0.214	0.179	0.343	0.263	0.212	0.178
10	0.338	0.249	0.196	0.162	0.33	0.245	0.195	0.161	0.321	0.242	0.194	0.161

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.7	0.7	0.7	0.7	0.67	0.67	0.67	0.643	0.643	0.643	0.63
1	0.637	0.615	0.595	0.577	0.591	0.574	0.559	0.568	0.555	0.543	0.529
2	0.576	0.537	0.503	0.474	0.516	0.488	0.464	0.497	0.474	0.453	0.44
3	0.522	0.471	0.43	0.396	0.454	0.418	0.389	0.437	0.408	0.382	0.368
4	0.476	0.417	0.372	0.336	0.402	0.363	0.331	0.389	0.355	0.327	0.313
5	0.437	0.373	0.325	0.289	0.36	0.318	0.286	0.348	0.312	0.282	0.269
6	0.403	0.336	0.287	0.252	0.325	0.282	0.249	0.315	0.277	0.247	0.234
7	0.374	0.304	0.257	0.222	0.295	0.252	0.22	0.287	0.248	0.218	0.206
8	0.349	0.278	0.231	0.197	0.27	0.227	0.196	0.263	0.224	0.195	0.183
9	0.326	0.255	0.209	0.177	0.248	0.206	0.176	0.242	0.203	0.175	0.164
10	0.306	0.236	0.191	0.16	0.23	0.189	0.16	0.224	0.186	0.159	0.148

Average Luminance Table (cd/m²)

	0	45	90
0	1667	1667	1667
45	1464	1747	1950
55	1316	1773	2031
65	1097	1688	1915
75	849	1185	1221
85	547	623	649

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25 °C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.





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LTL NUMBER: 19476

DATE: 06-14-2010

PREPARED FOR: SIMKAR CORPORATION

CATALOG NUMBER: A8C22P317T8EU1

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL STEEL REFLECTOR, FORMED WHITE ENAMEL PERFORATED STEEL CENTER DIFFUSER BELOW LAMPS.

LAMP: THREE 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1350 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8-SP41-ECO

BALLAST: ONE ADVANCE "CENTIUM" ICN-3P32-SC

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.3633A, 43.37W

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	
5	812	814	814	815	816	815	814	814	812	814	814	815	816	815	814	814	77.5
15	781	785	794	802	804	802	794	785	781	785	794	802	804	802	794	785	224.1
25	717	728	749	770	776	770	749	728	717	728	749	770	776	770	749	728	345.6
35	624	644	687	726	740	726	687	644	624	644	687	726	740	726	687	644	428.6
45	506	539	606	659	672	659	606	539	506	539	606	659	672	659	606	539	460.8
55	369	418	495	538	550	538	495	418	369	418	495	538	550	538	495	418	425.9
65	225	282	340	368	379	368	340	282	225	282	340	368	379	368	340	282	318.7
75	104	130	156	176	182	176	156	130	104	130	156	176	182	176	156	130	161.9
85	22	24	26	27	27	27	26	24	22	24	26	27	27	27	26	24	32.2
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Zonal Lumen Summary

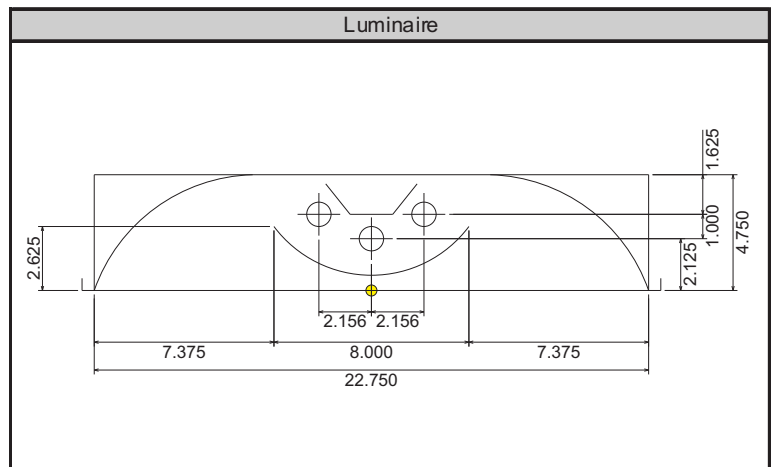
Zone	Lumens	% of Lamp	% of Luminaire
0-30	647.1	16.0%	26.1%
0-40	1075.7	26.6%	43.5%
0-60	1962.4	48.5%	79.3%
0-90	2475.2	61.1%	100.0%
90-180	0.0	0.0%	0.0%
0-180	2475.2	61.1%	100.0%

Total luminaire efficiency: 61.1%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.23 90 deg: 1.40
180 deg: 1.23 270 deg: 1.40

Total reflectance of paint: 87.6



Approved By: MG

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.



LUMINAIRE TESTING LABORATORY, INC.

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Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816	816
5	812	814	814	815	816	815	814	814	812	814	814	815	816	815	814	814
10	800	802	806	811	813	811	806	802	800	802	806	811	813	811	806	802
15	781	785	794	802	804	802	794	785	781	785	794	802	804	802	794	785
20	753	760	775	788	792	788	775	760	753	760	775	788	792	788	775	760
25	717	728	749	770	776	770	749	728	717	728	749	770	776	770	749	728
30	673	690	721	749	761	749	721	690	673	690	721	749	761	749	721	690
35	624	644	687	726	740	726	687	644	624	644	687	726	740	726	687	644
40	568	594	649	695	713	695	649	594	568	594	649	695	713	695	649	594
45	506	539	606	659	672	659	606	539	506	539	606	659	672	659	606	539
50	439	480	557	604	617	604	557	480	439	480	557	604	617	604	557	480
55	369	418	495	538	550	538	495	418	369	418	495	538	550	538	495	418
60	296	351	422	461	470	461	422	351	296	351	422	461	470	461	422	351
65	225	282	340	368	379	368	340	282	225	282	340	368	379	368	340	282
70	159	206	248	273	268	273	248	206	159	206	248	273	268	273	248	206
75	104	130	156	176	182	176	156	130	104	130	156	176	182	176	156	130
80	59	65	84	90	89	90	84	65	59	65	84	90	89	90	84	65
85	22	24	26	27	27	27	26	24	22	24	26	27	27	27	26	24
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	19.5	45-50	230.5	90-95	0.0	135-140	0.0
5-10	58.0	50-55	222.0	95-100	0.0	140-145	0.0
10-15	94.9	55-60	203.9	100-105	0.0	145-150	0.0
15-20	129.2	60-65	176.9	105-110	0.0	150-155	0.0
20-25	159.8	65-70	141.8	110-115	0.0	155-160	0.0
25-30	185.8	70-75	100.6	115-120	0.0	160-165	0.0
30-35	206.8	75-80	61.3	120-125	0.0	165-170	0.0
35-40	221.8	80-85	26.4	125-130	0.0	170-175	0.0
40-45	230.4	85-90	5.8	130-135	0.0	175-180	0.0



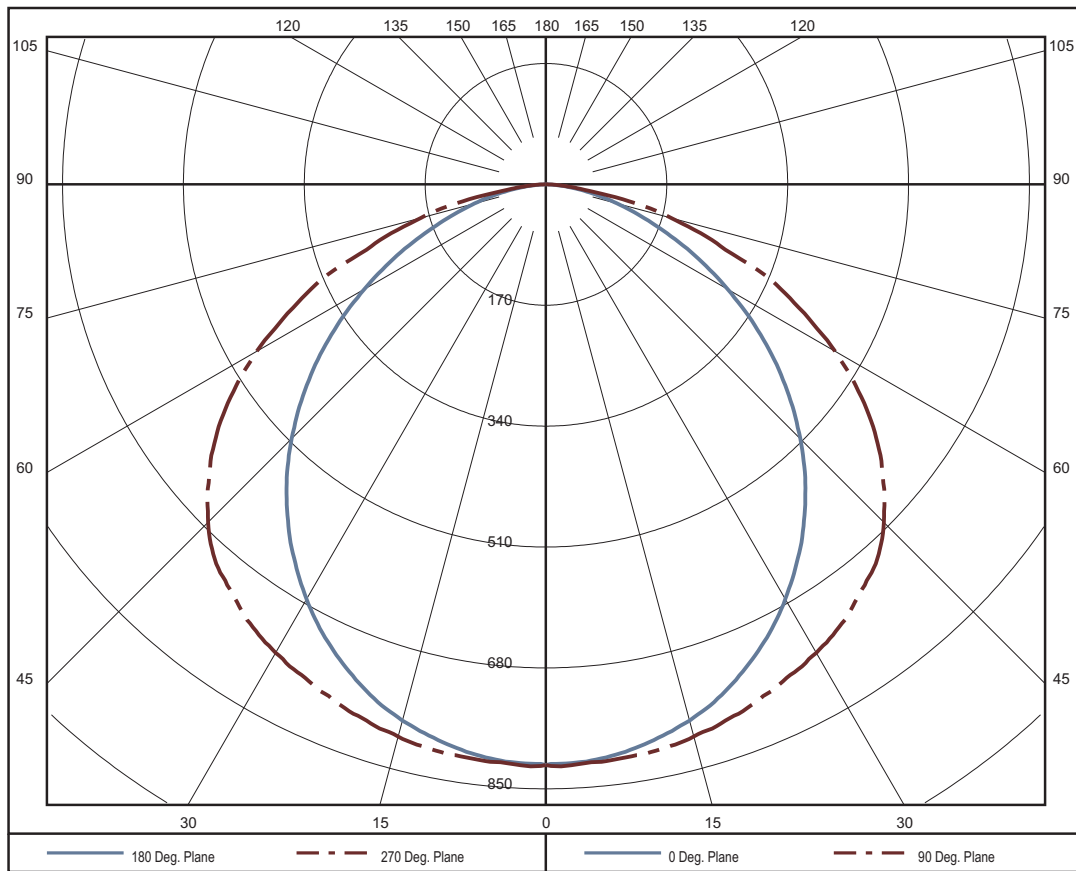
Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.745	0.745	0.745	0.745	0.728	0.728	0.728	0.728	0.711	0.711	0.711	0.711
1	0.683	0.651	0.623	0.597	0.665	0.636	0.611	0.587	0.649	0.623	0.599	0.578
2	0.621	0.566	0.52	0.483	0.604	0.554	0.512	0.477	0.588	0.542	0.504	0.471
3	0.566	0.495	0.441	0.398	0.55	0.485	0.435	0.395	0.535	0.475	0.429	0.391
4	0.518	0.437	0.379	0.335	0.502	0.428	0.374	0.333	0.488	0.42	0.37	0.33
5	0.475	0.389	0.33	0.287	0.461	0.382	0.326	0.285	0.448	0.375	0.323	0.284
6	0.438	0.349	0.29	0.249	0.425	0.343	0.287	0.248	0.413	0.337	0.285	0.247
7	0.405	0.315	0.258	0.219	0.394	0.31	0.256	0.218	0.383	0.305	0.254	0.217
8	0.376	0.287	0.232	0.194	0.366	0.282	0.23	0.194	0.356	0.278	0.228	0.193
9	0.351	0.263	0.21	0.174	0.342	0.259	0.208	0.174	0.333	0.255	0.206	0.173
10	0.328	0.242	0.191	0.157	0.32	0.238	0.19	0.157	0.312	0.235	0.188	0.157

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.679	0.679	0.679	0.679	0.65	0.65	0.65	0.624	0.624	0.624	0.611
1	0.618	0.597	0.577	0.559	0.573	0.557	0.542	0.551	0.538	0.526	0.513
2	0.558	0.52	0.488	0.46	0.5	0.473	0.449	0.482	0.459	0.439	0.426
3	0.507	0.457	0.417	0.384	0.44	0.406	0.377	0.424	0.395	0.371	0.357
4	0.462	0.405	0.361	0.326	0.39	0.352	0.321	0.377	0.344	0.317	0.303
5	0.424	0.362	0.316	0.28	0.35	0.309	0.277	0.338	0.303	0.274	0.261
6	0.392	0.326	0.279	0.244	0.315	0.274	0.242	0.306	0.269	0.24	0.227
7	0.363	0.296	0.249	0.215	0.287	0.245	0.214	0.278	0.241	0.212	0.2
8	0.339	0.27	0.224	0.192	0.262	0.221	0.191	0.255	0.217	0.189	0.178
9	0.317	0.248	0.203	0.172	0.241	0.201	0.171	0.235	0.198	0.17	0.159
10	0.297	0.229	0.186	0.156	0.223	0.183	0.155	0.218	0.181	0.154	0.144

Average Luminance Table (cd/m²)

	0	45	90
0	2432	2432	2432
45	2131	2553	2831
55	1915	2568	2858
65	1588	2396	2672
75	1193	1792	2091
85	754	894	934

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25 °C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.





LUMINAIRE TESTING LABORATORY, INC.

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LTL NUMBER: 19856

DATE: 07-22-2010

PREPARED FOR: SIMKAR CORPORATION

CATALOG NUMBER: A8C24P232T82LEU1

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING/REFLECTOR, FORMED WHITE ENAMEL PERFORATED STEEL CENTER DIFFUSER WITH TRANSLUCENT WHITE PLASTIC INSERT.

LAMP: TWO 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.

LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO

BALLAST: ONE ADVANCE "CENTIUM" ICN-2P32-N

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.4947A, 59.04W

NOTE: THIS TEST WAS PERFORMED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.*

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	
5	1044	1047	1050	1052	1052	1052	1050	1047	1044	1047	1050	1052	1052	1052	1050	1047	99.8
15	1007	1014	1025	1034	1037	1034	1025	1014	1007	1014	1025	1034	1037	1034	1025	1014	289.3
25	932	947	976	1000	1009	1000	976	947	932	947	976	1000	1009	1000	976	947	449.1
35	825	852	906	944	956	944	906	852	825	852	906	944	956	944	906	852	562.3
45	686	735	809	853	864	853	809	735	686	735	809	853	864	853	809	735	611.3
55	520	600	675	701	706	701	675	600	520	600	675	701	706	701	675	600	577.0
65	334	443	478	470	469	470	478	443	334	443	478	470	469	470	478	443	441.6
75	157	235	212	191	194	191	212	235	157	235	212	191	194	191	212	235	219.4
85	35	34	39	40	41	40	39	34	35	34	39	40	41	40	39	34	47.3
90	0	1	1	2	2	2	1	1	0	1	1	2	2	2	1	1	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

Zonal Lumen Summary

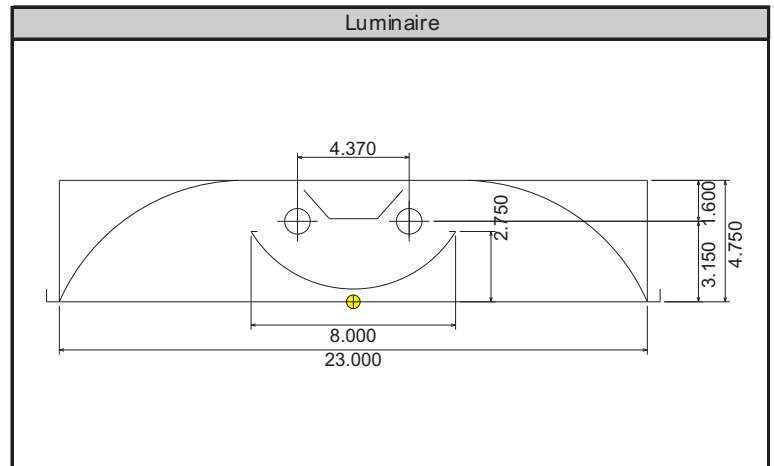
Zone	Lumens	% of Lamp	% of Luminaire
0-30	838.2	14.7%	25.4%
0-40	1400.5	24.6%	42.5%
0-60	2588.8	45.4%	78.5%
0-90	3297.0	57.8%	100.0%
90-180	0.0	0.0%	0.0%
0-180	3297.0	57.8%	100.0%

Total luminaire efficiency: 57.8%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.25 90 deg: 1.40
180 deg: 1.25 270 deg: 1.40

Total reflectance of paint: 88.7



Approved By: MG

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.



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Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052
5	1044	1047	1050	1052	1052	1052	1050	1047	1044	1047	1050	1052	1052	1052	1050	1047
10	1030	1035	1040	1045	1046	1045	1040	1035	1030	1035	1040	1045	1046	1045	1040	1035
15	1007	1014	1025	1034	1037	1034	1025	1014	1007	1014	1025	1034	1037	1034	1025	1014
20	974	984	1003	1019	1025	1019	1003	984	974	984	1003	1019	1025	1019	1003	984
25	932	947	976	1000	1009	1000	976	947	932	947	976	1000	1009	1000	976	947
30	883	903	943	976	987	976	943	903	883	903	943	976	987	976	943	903
35	825	852	906	944	956	944	906	852	825	852	906	944	956	944	906	852
40	759	796	862	904	916	904	862	796	759	796	862	904	916	904	862	796
45	686	735	809	853	864	853	809	735	686	735	809	853	864	853	809	735
50	606	669	749	784	792	784	749	669	606	669	749	784	792	784	749	669
55	520	600	675	701	706	701	675	600	520	600	675	701	706	701	675	600
60	428	524	584	599	596	599	584	524	428	524	584	599	596	599	584	524
65	334	443	478	470	469	470	478	443	334	443	478	470	469	470	478	443
70	241	347	350	332	318	332	350	347	241	347	350	332	318	332	350	347
75	157	235	212	191	194	191	212	235	157	235	212	191	194	191	212	235
80	89	120	107	112	113	112	107	120	89	120	107	112	113	112	107	120
85	35	34	39	40	41	40	39	34	35	34	39	40	41	40	39	34
90	0	1	1	2	2	2	1	1	0	1	1	2	2	2	1	1
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	25.1	45-50	306.9	90-95	0.0	135-140	0.0
5-10	74.7	50-55	298.7	95-100	0.0	140-145	0.0
10-15	122.4	55-60	278.3	100-105	0.0	145-150	0.0
15-20	166.9	60-65	244.2	105-110	0.0	150-155	0.0
20-25	207.1	65-70	197.3	110-115	0.0	155-160	0.0
25-30	242.0	70-75	137.0	115-120	0.0	160-165	0.0
30-35	270.6	75-80	82.4	120-125	0.0	165-170	0.0
35-40	291.7	80-85	38.5	125-130	0.0	170-175	0.0
40-45	304.3	85-90	8.8	130-135	0.0	175-180	0.0



Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.705	0.705	0.705	0.705	0.689	0.689	0.689	0.689	0.673	0.673	0.673	0.673
1	0.646	0.615	0.588	0.563	0.629	0.601	0.576	0.554	0.613	0.588	0.565	0.545
2	0.587	0.534	0.49	0.454	0.571	0.522	0.482	0.448	0.555	0.511	0.474	0.443
3	0.534	0.466	0.414	0.374	0.519	0.457	0.409	0.37	0.504	0.447	0.403	0.367
4	0.488	0.411	0.355	0.314	0.474	0.403	0.351	0.311	0.46	0.395	0.347	0.309
5	0.448	0.365	0.309	0.268	0.434	0.358	0.305	0.266	0.422	0.352	0.302	0.265
6	0.412	0.327	0.272	0.232	0.4	0.322	0.269	0.231	0.389	0.316	0.266	0.23
7	0.381	0.296	0.241	0.204	0.37	0.291	0.239	0.203	0.36	0.286	0.237	0.202
8	0.354	0.269	0.216	0.181	0.344	0.265	0.214	0.18	0.335	0.26	0.213	0.179
9	0.33	0.246	0.195	0.162	0.321	0.242	0.194	0.161	0.313	0.239	0.192	0.161
10	0.309	0.226	0.178	0.146	0.301	0.223	0.177	0.146	0.293	0.22	0.175	0.145

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.643	0.643	0.643	0.643	0.615	0.615	0.615	0.59	0.59	0.59	0.578
1	0.584	0.563	0.545	0.528	0.541	0.526	0.511	0.52	0.508	0.496	0.484
2	0.527	0.491	0.46	0.433	0.472	0.446	0.423	0.454	0.432	0.413	0.401
3	0.477	0.43	0.392	0.36	0.414	0.381	0.354	0.399	0.371	0.348	0.335
4	0.435	0.38	0.338	0.305	0.367	0.33	0.301	0.354	0.323	0.296	0.284
5	0.399	0.34	0.296	0.262	0.328	0.289	0.259	0.317	0.283	0.256	0.243
6	0.368	0.305	0.261	0.228	0.296	0.256	0.226	0.286	0.251	0.224	0.211
7	0.341	0.277	0.233	0.201	0.268	0.229	0.199	0.26	0.225	0.197	0.186
8	0.318	0.253	0.209	0.178	0.245	0.206	0.177	0.239	0.203	0.176	0.165
9	0.297	0.232	0.19	0.16	0.226	0.187	0.159	0.22	0.184	0.158	0.147
10	0.279	0.214	0.173	0.145	0.209	0.171	0.144	0.204	0.168	0.143	0.133

Average Luminance Table (cd/m²)

	0	45	90
0	1513	1513	1513
45	1395	1646	1756
55	1303	1692	1770
65	1137	1628	1596
75	870	1176	1077
85	578	645	670

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25 °C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.

