



# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING  
MEMBER  
of the  
IESNA

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LTL NUMBER: 16778

DATE: 09-29-2009

CATALOG NUMBER: 14100S-14 (#25)

LUMINAIRE: CAST ALUMINUM HOUSING, SPUN SPECULAR REFLECTOR, FROSTED PLASTIC ENCLOSURE, SPUN WHITE ENAMEL STEEL TRIM WITH WHITE GLASS OUTER ENCLOSURE.

LAMP: SEVEN WHITE LEDS

LED POWER SUPPLY: ONE UNMARKED POWER SUPPLY

MOUNTING: SURFACE / CEILING

ELECTRICAL VALUES: 120.0VAC, 0.1175A, 14.08W, PF=0.999

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

### Candela Distribution

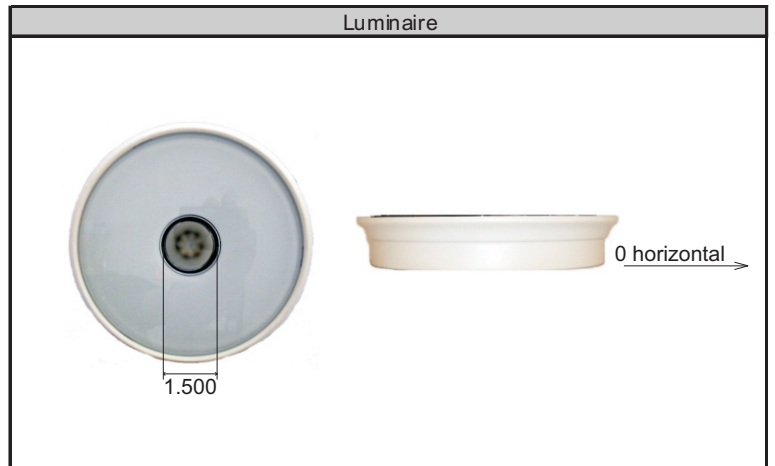
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	
5	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	45.3
15	446	446	446	446	446	446	446	446	446	446	446	446	446	446	446	446	124.1
25	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	153.1
35	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	128.5
45	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	87.5
55	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	42.4
65	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20.2
75	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7.8
85	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.5
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	322.6	N/A	52.8%
0-40	451.1	N/A	73.9%
0-60	580.9	N/A	95.2%
0-90	610.4	N/A	100.0%
90-180	0.0	N/A	0.0%
0-180	610.4	N/A	100.0%

Total lumen Output: 610.4 Lumens  
 Luminaire efficacy: 43.4 Lumens per Watt  
 CIE Type: Direct  
 Spacing Criterion: 0.96

Beam Angle: 64.2



Approved By: MG

\*DATA WAS ACQUIRED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY. A UDT MODEL #211 PHOTODETECTOR AND UDT MODEL #S370 OPTOMETER COMBINATION WERE USED AS A STANDARD. A SPECTRAL MISMATCH CORRECTION FACTOR WAS EMPLOYED BASED ON THE SPECTRAL RESPONSIVITY OF THE PHOTODETECTOR AND THE SPECTRAL POWER DISTRIBUTION OF THE TEST SUBJECT.

TESTING WAS PERFORMED IN ACCORDANCE WITH IES LM-79-08.

TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IES LM-41-98 AND LM-46-04.



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	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
5	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
10	471	471	471	471	471	471	471	471	471	471	471	471	471	471	471	471
15	446	446	446	446	446	446	446	446	446	446	446	446	446	446	446	446
20	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398	398
25	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337
30	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267
35	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204	204
40	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
45	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113	113
50	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
55	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
60	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
65	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
70	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
75	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
80	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
85	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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	11.4	45-50	37.5	90-95	0.0	135-140	0.0
5-10	33.9	50-55	25.4	95-100	0.0	140-145	0.0
10-15	54.5	55-60	17.0	100-105	0.0	145-150	0.0
15-20	69.6	60-65	12.1	105-110	0.0	150-155	0.0
20-25	77.0	65-70	8.1	110-115	0.0	155-160	0.0
25-30	76.1	70-75	5.0	115-120	0.0	160-165	0.0
30-35	68.8	75-80	2.8	120-125	0.0	165-170	0.0
35-40	59.7	80-85	1.2	125-130	0.0	170-175	0.0
40-45	50.0	85-90	0.2	130-135	0.0	175-180	0.0



Utilization of Lumens - 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)	** Values are expressed as Lumens delivered to the task surface **											
0	744.4	744.4	744.4	744.4	726.6	726.6	726.6	726.6	709.7	709.7	709.7	709.7
1	701	678.3	658.1	640.1	684.7	664.3	646.1	629.6	669.2	650.9	634.5	619.5
2	656.8	616.9	584.2	557	641.7	605.6	575.7	550.6	627.4	594.8	567.5	544.3
3	614.8	562.7	523	491.7	600.9	553.5	516.8	487.5	587.7	544.6	510.7	483.4
4	575.8	515.4	471.8	439	563	507.7	467.2	436.2	551	500.3	462.6	433.5
5	539.9	473.9	428.6	395.7	528.2	467.5	425.1	393.7	517.2	461.3	421.6	391.8
6	506.9	437.5	391.8	359.4	496.3	432.1	389	358.1	486.3	426.9	386.3	356.7
7	476.8	405.4	360.1	328.7	467.1	400.8	357.8	327.7	458	396.4	355.7	326.8
8	449.3	377	332.5	302.4	440.5	373.1	330.7	301.6	432.3	369.3	329	300.9
9	424.2	351.9	308.5	279.5	416.3	348.5	307	279	408.8	345.2	305.6	278.4
10	401.4	329.5	287.3	259.6	394.2	326.5	286.1	259.2	387.3	323.7	284.9	258.7

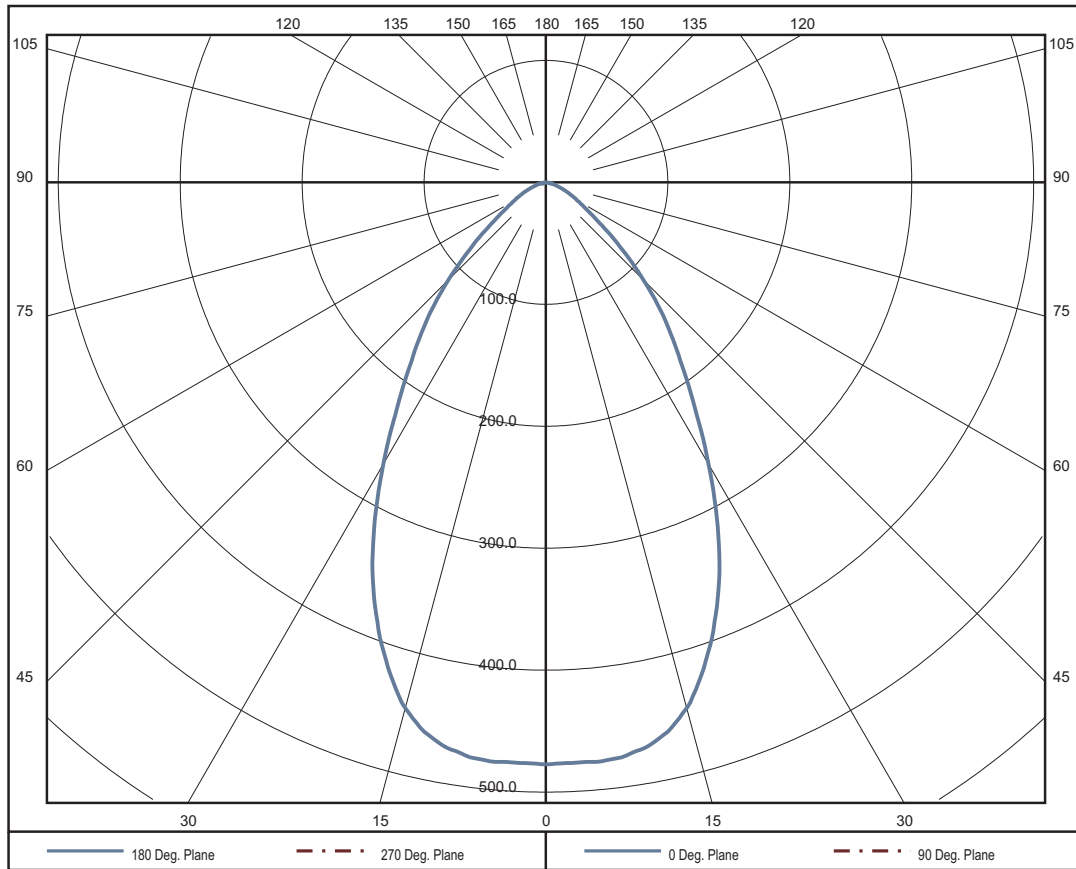
  

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	678.2	678.2	678.2	678.2	649.3	649.3	649.3	622.8	622.8	622.8	610.4
1	640.5	625.9	612.5	600.3	602.8	592.2	582.3	581.6	573.2	565.4	553.9
2	601	574.4	551.8	532.2	555.7	537	520.6	538.4	523.1	509.5	498.5
3	563.5	527.9	499.1	475.5	512.4	488.1	467.8	498	477.7	460.4	449.5
4	528.8	486.4	453.9	428.1	473.5	445.5	422.8	461.5	437.6	417.8	407.1
5	497.1	449.7	414.8	388.1	438.8	408.4	384.5	428.7	402.2	380.9	370.5
6	467.9	417	381	354.1	407.8	375.9	351.4	399.2	371	348.9	338.7
7	441.3	388	351.4	324.8	380.1	347.3	322.9	372.7	343.4	321	311.1
8	417.1	362.1	325.5	299.4	355.3	322.2	298	348.9	319	296.6	287
9	394.9	339	302.7	277.3	333.1	300	276.2	327.5	297.3	275.1	265.8
10	374.7	318.3	282.5	257.9	313.1	280.3	257	308.3	278	256.2	247.2

Average Luminance Table (cd/m<sup>2</sup>)

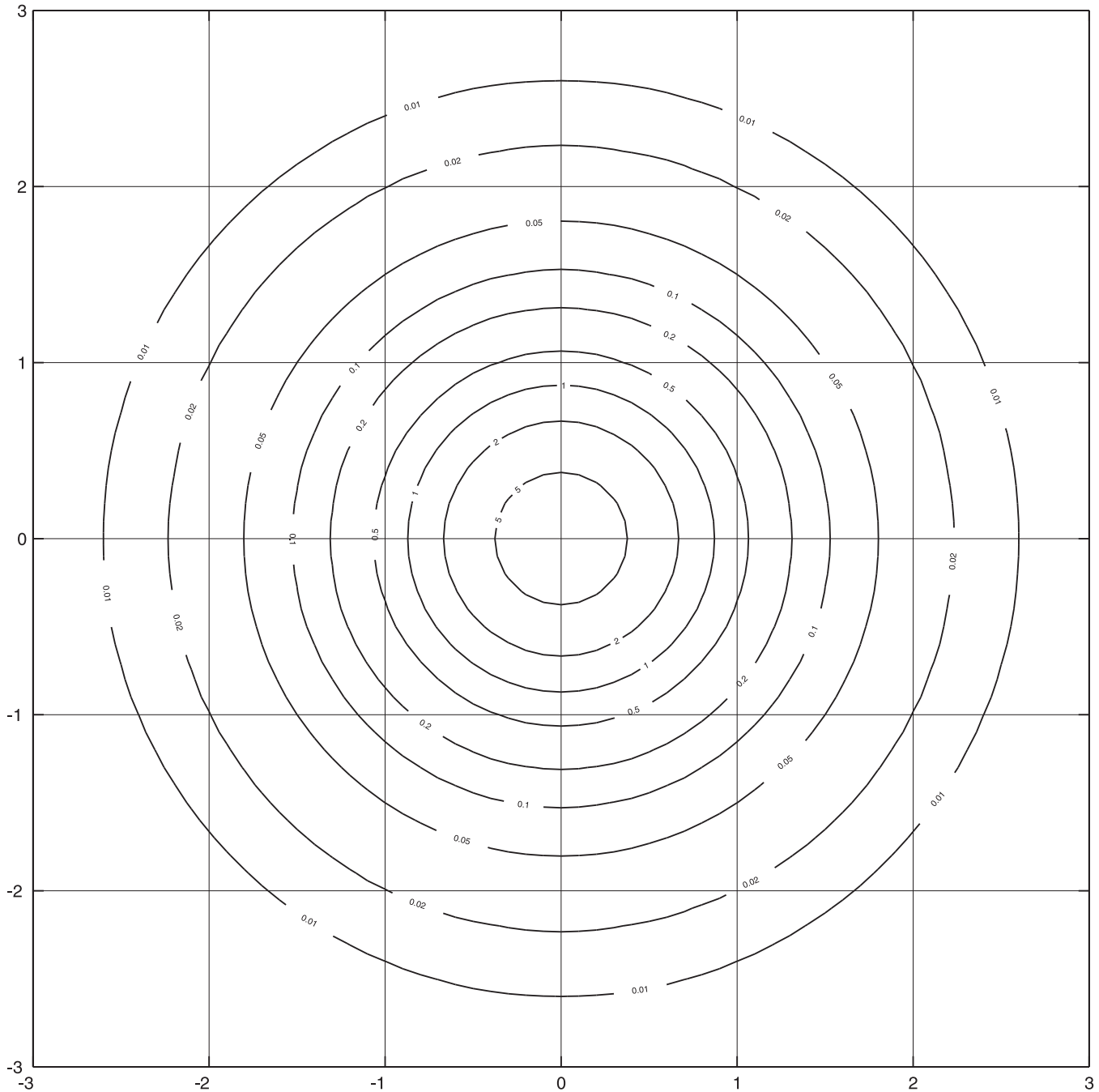
	0	45	90
0	20675	20675	20675
45	6927	6927	6927
55	3430	3430	3430
65	2090	2090	2090
75	1192	1192	1192
85	604	604	604

THIS TEST WAS CONDUCTED USING PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IES 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) 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.





VALUES BASED ON 8.00 FOOT MOUNTING HEIGHT



LTL REPORT NUMBER 16778-ISOFOOTCANDLE VALUES ARE BASED ON A MOUNTING HEIGHT OF 8', WITH THE LUMINAIRE LOCATED AT 0,0. ISOFOOTCANDLE VALUES ARE CALCULATED FROM THE DIRECT CONTRIBUTION FROM THE LUMINAIRE ONLY. WALL, CEILING, AND FLOOR CONTRIBUTION IS NOT INCLUDED.