



LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING
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of the
IESNA

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LTL NUMBER: 14950 DATE: 03-06-2009
 PREPARED FOR: SIGNTEX, INC.
 CATALOG NUMBER: MLW 15L3
 LUMINAIRE: FORMED ALUMINUM AND STEEL HOUSING, CLEAR LINEAR PRISMATIC PLASTIC LENS.
 LAMP: 3 WHITE LEDS WITH CLEAR FRESNEL PLASTIC OPTICS BELOW EACH.
 MOUNTING: RECESSED
 ELECTRICAL VALUES: 11.39VDC, 1.200A, 13.66W
 NOTE: UPON REQUEST, THIS DATA WAS PRORATED TO INTENSITY VALUES MEASURED IMMEDIATELY FOLLOWING SWITCH-ON. TEST WAS PERFORMED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.* VERTICAL TEST DATA WAS ACQUIRED IN 1/2 DEGREE INCREMENTS.

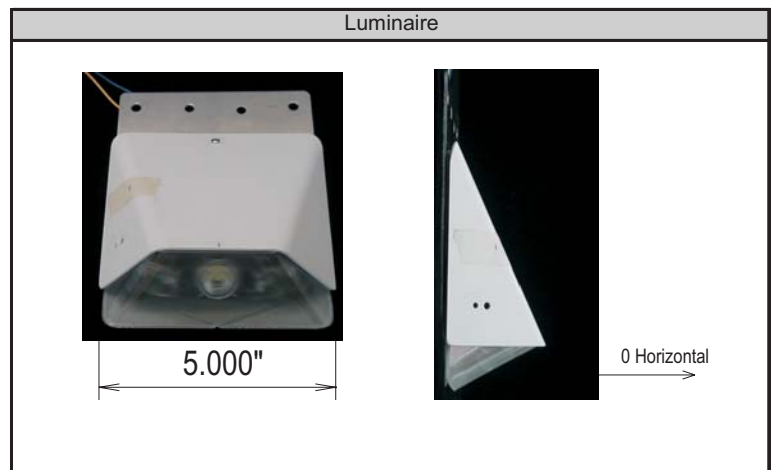
Candela Distribution

	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	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	
5	59	55	50	46	41	35	32	29	29	29	32	35	41	46	50	55	4.1
15	151	113	78	55	39	27	20	15	13	15	20	27	39	55	78	113	16.5
25	551	347	196	78	39	22	13	9	8	9	13	22	39	78	196	347	56.2
35	254	301	526	150	38	17	8	6	4	6	8	17	38	150	526	301	91.1
45	340	199	293	358	39	14	7	5	4	5	7	14	39	358	293	199	108.4
55	501	452	99	311	39	10	4	2	2	2	4	10	39	311	99	452	123.7
65	98	155	47	67	29	8	3	1	1	1	3	8	29	67	47	155	48.3
75	30	40	24	23	13	7	2	1	0	1	2	7	13	23	24	40	17.0
85	11	18	13	8	6	3	1	0	0	0	1	3	6	8	13	18	7.7
90	7	12	9	6	4	3	1	0	0	0	1	3	4	6	9	12	
95	4	6	7	5	5	2	1	0	0	0	1	2	5	5	7	6	3.8
105	2	2	2	2	3	2	0	0	0	0	0	2	3	2	2	2	1.7
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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	76.8	N/A	16.0%
0-40	167.9	N/A	35.1%
0-60	400.0	N/A	83.6%
0-90	472.9	N/A	98.8%
90-180	5.6	N/A	1.2%
0-180	478.5	N/A	100.0%

Total lumen Output: 478.5 Lumens
 Luminaire efficacy: 35.0 Lumens per Watt
 CIE Type: Direct
 Spacing Criterion: 0 deg: 3.61 90 deg: 1.40
 180 deg: 0.32 270 deg: 1.40



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.



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	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
5	59	55	50	46	41	35	32	29	29	29	32	35	41	46	50	55
10	87	76	62	49	40	32	24	21	20	21	24	32	40	49	62	76
15	151	113	78	55	39	27	20	15	13	15	20	27	39	55	78	113
20	336	197	111	63	39	23	16	11	10	11	16	23	39	63	111	197
25	551	347	196	78	39	22	13	9	8	9	13	22	39	78	196	347
30	434	421	367	102	38	19	9	7	7	7	9	19	38	102	367	421
35	254	301	526	150	38	17	8	6	4	6	8	17	38	150	526	301
40	212	198	475	237	38	14	7	5	4	5	7	14	38	237	475	198
45	340	199	293	358	39	14	7	5	4	5	7	14	39	358	293	199
50	575	322	157	432	39	12	5	4	5	4	5	12	39	432	157	322
55	501	452	99	311	39	10	4	2	2	2	4	10	39	311	99	452
60	223	341	67	150	39	9	3	2	0	2	3	9	39	150	67	341
65	98	155	47	67	29	8	3	1	1	1	3	8	29	67	47	155
70	49	72	34	34	24	9	1	1	1	1	1	9	24	34	34	72
75	30	40	24	23	13	7	2	1	0	1	2	7	13	23	24	40
80	20	25	17	14	8	3	2	1	0	1	2	3	8	14	17	25
85	11	18	13	8	6	3	1	0	0	0	1	3	6	8	13	18
90	7	12	9	6	4	3	1	0	0	0	1	3	4	6	9	12
95	4	6	7	5	5	2	1	0	0	0	1	2	5	5	7	6
100	2	3	4	3	4	3	0	0	0	0	0	3	4	3	4	3
105	2	2	2	2	3	2	0	0	0	0	0	2	3	2	2	2
110	1	0	2	2	2	2	0	0	0	0	0	2	2	2	2	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	1.0	45-50	58.9	90-95	2.2	135-140	0.0
5-10	3.1	50-55	68.3	95-100	1.6	140-145	0.0
10-15	5.7	55-60	55.4	100-105	1.0	145-150	0.0
15-20	10.7	60-65	31.4	105-110	0.7	150-155	0.0
20-25	21.2	65-70	16.8	110-115	0.1	155-160	0.0
25-30	35.0	70-75	10.4	115-120	0.0	160-165	0.0
30-35	44.1	75-80	6.6	120-125	0.0	165-170	0.0
35-40	47.0	80-85	4.5	125-130	0.0	170-175	0.0
40-45	49.4	85-90	3.2	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	582.8	582.8	582.8	582.8	568.3	568.3	568.3	568.3	554.4	554.4	554.4	554.4
1	533.8	508.8	486.4	466.5	519.5	496.8	476.5	458.2	505.9	485.4	466.9	450.2
2	484.4	440.3	404.2	374.2	470.4	430.3	397.1	369.2	457.2	420.7	390.2	364.3
3	438.6	381.5	338	303.7	425.2	373.1	332.7	300.5	412.7	365	327.6	297.4
4	397.6	332.2	285.1	249.6	385.2	325.1	281.1	247.5	373.4	318.2	277.1	245.3
5	361.5	291.1	242.8	207.6	350	285	239.6	206.1	339.2	279.2	236.5	204.6
6	329.8	256.8	208.8	174.7	319.3	251.6	206.2	173.6	309.4	246.6	203.7	172.6
7	302.1	228.1	181.1	148.7	292.5	223.7	179.1	147.8	283.5	219.4	177.1	147
8	277.9	204.1	158.6	127.8	269.2	200.3	156.9	127.1	261	196.6	155.2	126.5
9	256.7	183.8	140	110.8	248.8	180.5	138.6	110.3	241.4	177.3	137.2	109.8
10	238.1	166.5	124.6	96.96	231	163.7	123.4	96.55	224.2	160.9	122.2	96.14

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	528.5	528.5	528.5	528.5	504.9	504.9	504.9	483.1	483.1	483.1	472.9
1	480.7	464	448.8	434.9	444.4	432	420.6	426.3	416.4	407.1	396.8
2	432.7	402.7	377.1	354.9	386.1	364.8	346	370.8	353.2	337.4	326.6
3	389.5	349.7	317.7	291.3	335.6	308.4	285.4	322.6	299.5	279.8	268.8
4	351.8	305.2	269.5	241.2	293.2	262.3	237.2	282	255.4	233.3	222.3
5	319.2	268.1	230.5	201.7	257.8	224.8	198.9	248.2	219.3	196.1	185.3
6	291.1	237.1	198.9	170.4	228.3	194.3	168.3	220	189.9	166.3	155.7
7	266.8	211.2	173.1	145.4	203.6	169.3	143.8	196.4	165.7	142.2	132.1
8	245.9	189.5	152	125.2	182.9	148.8	124	176.6	145.8	122.8	113
9	227.7	171.1	134.5	108.8	165.3	131.8	107.8	159.9	129.3	106.8	97.48
10	211.8	155.5	119.9	95.33	150.5	117.7	94.52	145.7	115.5	93.73	84.78

Average Luminance Table (cd/m²)

	0	45	90
0	6030	6030	6030
45	49734	42775	6813
55	80284	15831	7896
65	17930	8566	7402
75	6734	5257	4402
85	3136	3765	3074

Note: The zonal cavity calculation technique is accurate when luminaires with symmetric candela distributions are employed and when the luminaires are located symmetrically throughout the room. This unit has special characteristics and therefore these values should be used with caution.

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.

