



# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING  
MEMBER  
of the  
IESNA

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LTL NUMBER: 14949

DATE: 03-06-2009

PREPARED FOR: SIGNTEX, INC.

CATALOG NUMBER: MLW 10L2

LUMINAIRE: FORMED ALUMINUM AND STEEL HOUSING, CLEAR LINEAR PRISMATIC PLASTIC LENS.

LAMP: 2 WHITE LEDS WITH CLEAR FRESNEL PLASTIC OPTICS BELOW EACH.

MOUNTING: RECESSED

ELECTRICAL VALUES: 7.87VDC, 1.200A, 9.45W

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.

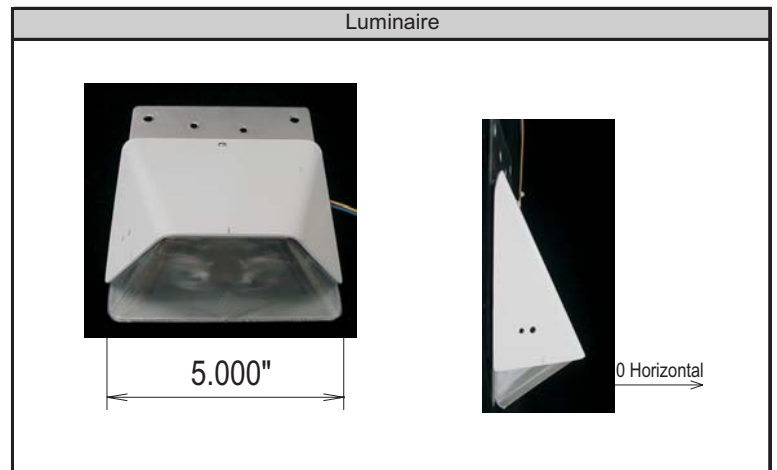
### Candela Distribution

	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	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	
5	48	46	41	37	35	31	27	25	24	25	27	31	35	37	41	46	3.3
15	126	97	67	46	34	22	15	10	10	10	15	22	34	46	67	97	13.7
25	455	295	174	66	32	17	8	5	3	5	8	17	32	66	174	295	47.2
35	164	207	471	132	32	13	5	3	3	3	5	13	32	132	471	207	72.5
45	54	63	221	328	32	10	4	2	2	2	4	10	32	328	221	63	66.7
55	24	29	63	274	28	6	1	1	0	1	1	6	28	274	63	29	46.0
65	10	14	27	66	21	5	0	0	0	0	0	5	21	66	27	14	18.0
75	6	8	13	24	15	2	0	0	0	0	0	2	15	24	13	8	8.6
85	4	4	7	9	5	2	0	0	0	0	0	2	5	9	7	4	4.2
90	4	3	4	5	4	2	0	0	0	0	0	2	4	5	4	3	
95	2	3	3	3	3	2	0	0	0	0	0	2	3	3	3	3	2.0
105	1	1	1	1	2	2	0	0	0	0	0	2	2	1	1	1	1.4
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	0

### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	64.3	N/A	22.6%
0-40	136.8	N/A	48.2%
0-60	249.5	N/A	87.9%
0-90	280.2	N/A	98.8%
90-180	3.5	N/A	1.2%
0-180	283.8	N/A	100.0%

Total lumen Output: 283.8 Lumens  
 Luminaire efficacy: 30.0 Lumens per Watt  
 CIE Type: Direct  
 Spacing Criterion: 0 deg: 2.07    90 deg: 1.45  
                           180 deg: 0.29    270 deg: 1.45



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	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
5	48	46	41	37	35	31	27	25	24	25	27	31	35	37	41	46
10	74	64	51	41	33	26	21	16	15	16	21	26	33	41	51	64
15	126	97	67	46	34	22	15	10	10	10	15	22	34	46	67	97
20	282	171	95	52	32	20	11	8	6	8	11	20	32	52	95	171
25	455	295	174	66	32	17	8	5	3	5	8	17	32	66	174	295
30	353	323	336	88	32	15	6	3	3	3	6	15	32	88	336	323
35	164	207	471	132	32	13	5	3	3	3	5	13	32	132	471	207
40	85	102	393	217	32	11	4	3	2	3	4	11	32	217	393	102
45	54	63	221	328	32	10	4	2	2	2	4	10	32	328	221	63
50	36	43	108	378	31	9	3	2	2	2	3	9	31	378	108	43
55	24	29	63	274	28	6	1	1	0	1	1	6	28	274	63	29
60	16	21	40	137	25	7	2	0	0	0	2	7	25	137	40	21
65	10	14	27	66	21	5	0	0	0	0	0	5	21	66	27	14
70	9	10	19	39	18	3	0	0	0	0	0	3	18	39	19	10
75	6	8	13	24	15	2	0	0	0	0	0	2	15	24	13	8
80	6	5	8	14	10	1	0	0	0	0	0	1	10	14	8	5
85	4	4	7	9	5	2	0	0	0	0	0	2	5	9	7	4
90	4	3	4	5	4	2	0	0	0	0	0	2	4	5	4	3
95	2	3	3	3	3	2	0	0	0	0	0	2	3	3	3	3
100	3	2	2	2	3	1	0	0	0	0	0	1	3	2	2	2
105	1	1	1	1	2	2	0	0	0	0	0	2	2	1	1	1
110	0	0	0	1	2	3	0	0	0	0	0	3	2	1	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	0.8	45-50	32.3	90-95	1.2	135-140	0.0
5-10	2.5	50-55	27.6	95-100	0.8	140-145	0.0
10-15	4.8	55-60	18.5	100-105	0.7	145-150	0.0
15-20	9.0	60-65	11.0	105-110	0.6	150-155	0.0
20-25	17.9	65-70	7.0	110-115	0.1	155-160	0.0
25-30	29.3	70-75	5.1	115-120	0.0	160-165	0.0
30-35	36.0	75-80	3.5	120-125	0.0	165-170	0.0
35-40	36.6	80-85	2.6	125-130	0.0	170-175	0.0
40-45	34.4	85-90	1.6	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	345.6	345.6	345.6	345.6	337	337	337	337	328.7	328.7	328.7	328.7
1	319.1	305.4	293.2	282.3	310.7	298.4	287.3	277.4	302.8	291.6	281.6	272.5
2	292.5	268.6	249.1	232.8	284.5	262.8	244.8	229.7	276.9	257.2	240.7	226.7
3	267.6	236.7	213	194.4	260	231.8	209.9	192.5	252.9	227.1	206.8	190.5
4	245	209.3	183.7	164.3	237.9	205.2	181.3	162.9	231.3	201.3	178.9	161.6
5	224.6	186	159.5	140.2	218.1	182.5	157.6	139.3	212	179.2	155.8	138.4
6	206.4	166.1	139.6	120.8	200.4	163.1	138.1	120.1	194.8	160.2	136.6	119.4
7	190.1	149	122.9	104.9	184.7	146.5	121.7	104.4	179.5	144	120.5	103.9
8	175.6	134.4	109	91.75	170.7	132.2	108	91.35	166	130.1	107	90.95
9	162.8	121.8	97.19	80.8	158.3	119.9	96.36	80.48	154	118	95.54	80.16
10	151.3	110.9	87.17	71.59	147.2	109.2	86.47	71.33	143.4	107.6	85.78	71.08

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	313.3	313.3	313.3	313.3	299.3	299.3	299.3	286.3	286.3	286.3	280.2
1	288	279	270.8	263.3	267.5	260.8	254.7	256.8	251.5	246.5	240.6
2	262.8	246.7	232.9	221	237	225.6	215.5	228.1	218.6	210.2	204.2
3	239.7	218.3	201	186.7	210.1	195.4	183.1	202.5	190.1	179.6	173.4
4	219	193.8	174.4	159	186.8	170.1	156.5	180.4	166	154.1	148
5	200.7	172.8	152.3	136.5	166.9	148.9	134.7	161.3	145.6	133	127
6	184.5	154.8	133.8	118.1	149.7	131	116.8	144.9	128.4	115.5	109.6
7	170.1	139.3	118.2	102.8	134.9	116	101.8	130.8	113.8	100.9	95.18
8	157.4	126	105.1	90.16	122.2	103.2	89.39	118.6	101.4	88.62	83.14
9	146.2	114.5	93.94	79.54	111.2	92.39	78.92	108	90.88	78.31	73.04
10	136.2	104.5	84.43	70.57	101.6	83.11	70.07	98.82	81.84	69.58	64.52

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

	0	45	90
0	4958	4958	4958
45	7917	32258	5657
55	3912	9997	5615
65	1815	4918	5183
75	1393	2920	5173
85	1260	2020	2761

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.

