

Report of Test

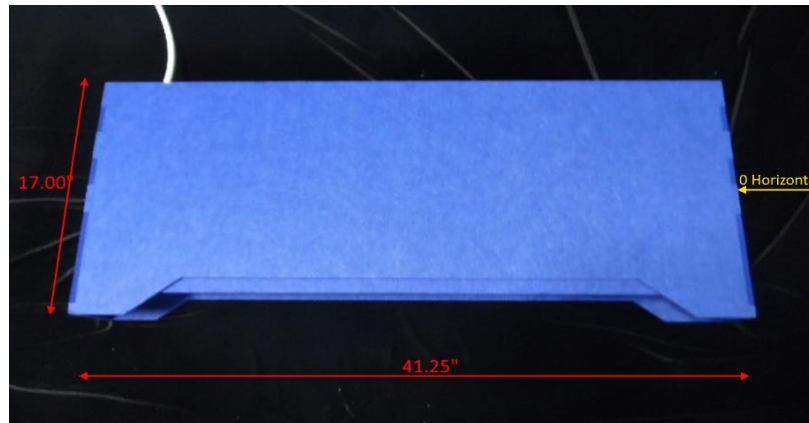
LLIA001289-001

Indoor Distribution Photometry Test Report

Catalog Number: P4217A-Upper Section Only

Pendant mounted, formed steel and aluminum housing, solid fabric outer enclosures with white plastic inner lining, translucent white plastic top and bottom enclosures.

72 white LEDs, three Samsung Electronics SI-B8V114280WW boards with 24 LEDs each. One eldoLED SC 4202/L and one eldoLED DUALdrive DL75L-M2A0D1-A 350mA LOG LED driver



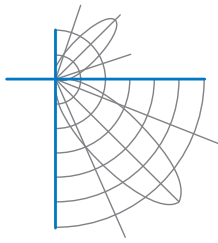
Prepared For:
Lumetta, Inc
33 Minnesota Avenue
Warwick, RI 02888, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	3074.9 Lumens
Input Current	0.3277 A	Total Efficacy	78.7 Lm/W
Input Power	39.07 W	Downward Flux	60.9 Lumens
Frequency	60.00 Hz	Downward Flux	2.0 % of Total
Power Factor	0.994		
Current THD	4.8 %		

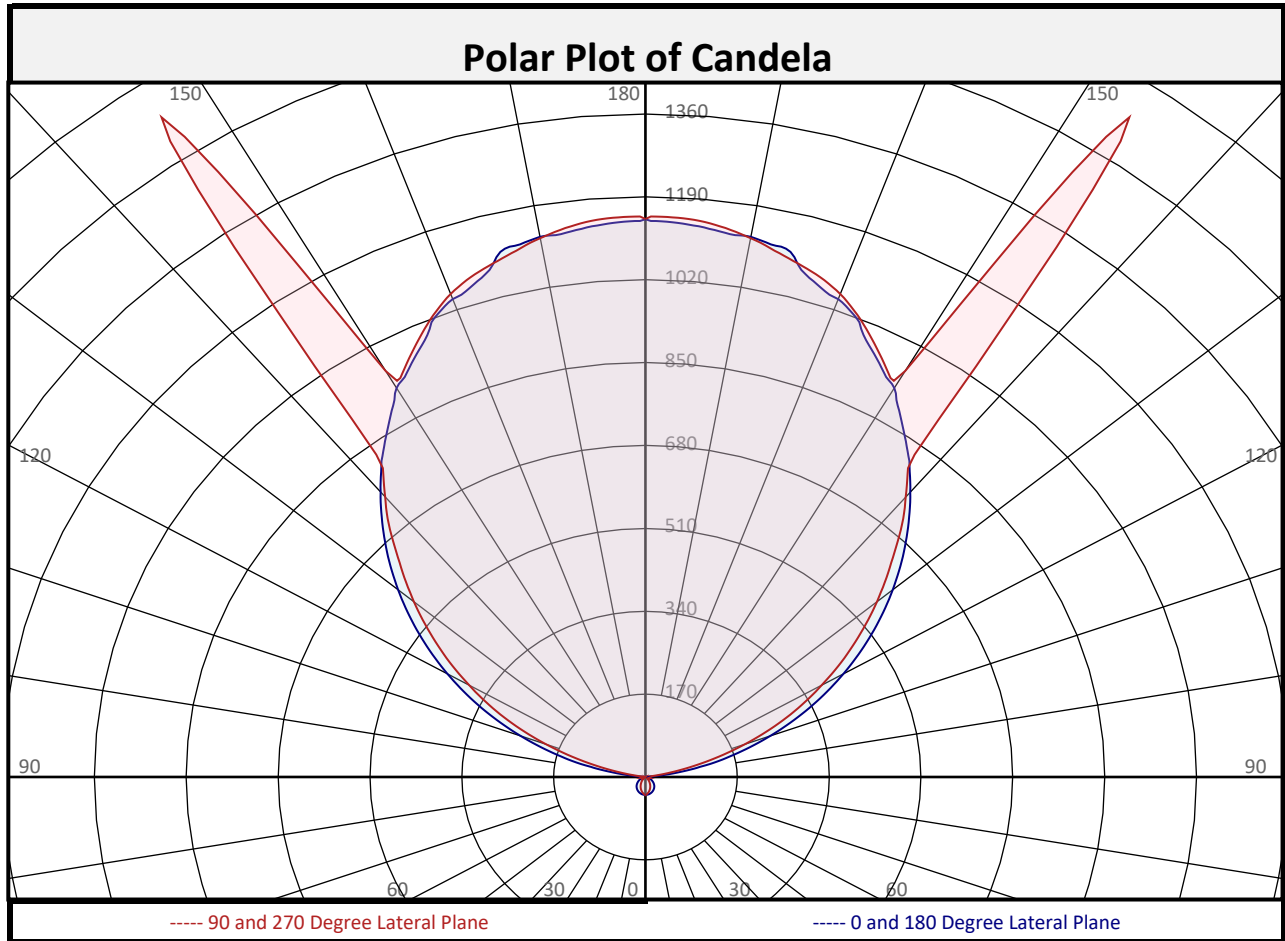
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 07/31/2020
Report date: 08/04/2020

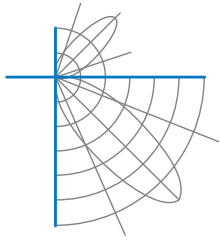
Signed: _____



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Zonal Flux Summary											
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	3.3	0.1%	90-100	16.2	0.5%	0-20	12.0	0.4%	0-10	3.3	0.1%
10-20	8.7	0.3%	100-110	143.8	4.7%	0-30	23.6	0.8%	10-20	8.7	0.3%
20-30	11.5	0.4%	110-120	325.0	10.6%	0-40	35.1	1.1%	20-30	11.5	0.4%
30-40	11.6	0.4%	120-130	467.3	15.2%	0-60	50.3	1.6%	30-40	11.6	0.4%
40-50	9.0	0.3%	130-140	578.6	18.8%	0-80	59.9	1.9%	40-50	9.0	0.3%
50-60	6.1	0.2%	140-150	606.7	19.7%	10-90	57.6	1.9%	50-60	6.1	0.2%
60-70	4.9	0.2%	150-160	459.9	15.0%	20-50	32.1	1.0%	60-70	4.9	0.2%
70-80	4.7	0.2%	160-170	308.4	10.0%	40-90	25.8	0.8%	70-80	4.7	0.2%
80-90	1.1	0.0%	170-180	108.3	3.5%	60-90	10.6	0.3%	80-90	1.1	0.0%
0-90	60.9	2.0%	90-180	3014	98.0%	0-180	3075	100.0%	0-90	60.9	2.0%

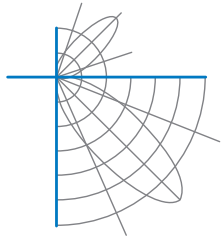


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	37	37	37	37	37	37	37	37	37
	2.5	37	37	36	36	36	36	36	37	37
	5	37	36	35	35	35	35	35	36	37
	7.5	37	35	34	34	34	34	34	35	37
	10	36	35	33	32	32	32	33	35	36
	12.5	36	34	32	31	31	31	32	34	36
	15	35	33	30	29	29	29	30	33	35
	17.5	35	32	29	27	27	27	29	32	35
	20	34	30	27	25	25	25	27	30	34
	22.5	33	29	26	24	23	24	26	29	33
	25	32	28	24	22	21	22	24	28	32
	27.5	31	27	23	20	19	20	23	27	31
	30	30	25	21	18	17	18	21	25	30
	32.5	29	24	19	16	15	16	19	24	29
	35	28	22	17	14	13	14	17	22	28
	37.5	27	21	16	12	11	12	16	21	27
	40	26	19	14	10	9	10	14	19	26
	42.5	24	18	12	8	7	8	12	18	24
	45	23	16	10	6	5	6	10	16	23
	47.5	21	15	9	4	3	4	9	15	21
50	20	13	7	3	3	3	7	13	20	
52.5	18	11	5	3	4	3	5	11	18	
55	16	10	4	4	4	4	4	10	16	
57.5	15	8	3	4	5	4	3	8	15	
60	13	7	3	4	5	4	3	7	13	
62.5	12	5	3	4	5	4	3	5	12	
65	10	4	4	5	6	5	4	4	10	
67.5	8	3	4	5	6	5	4	3	8	
70	7	2	4	6	7	6	4	2	7	
72.5	5	2	4	7	8	7	4	2	5	
75	4	2	5	7	8	7	5	2	4	
77.5	2	2	4	6	7	6	4	2	2	
80	1	1	3	4	5	4	3	1	1	
82.5	0	1	2	2	3	2	2	1	0	
85	0	0	0	0	0	0	0	0	0	
87.5	0	0	0	0	0	0	0	0	0	
90	0	0	0	0	0	0	0	0	0	

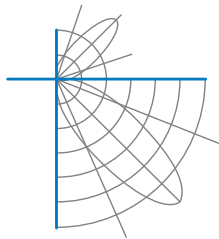


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	90	0	0	0	0	0	0	0	0	0
	92.5	3	1	1	1	1	1	1	1	3
	95	19	12	3	2	2	2	3	12	19
	97.5	46	38	23	14	12	14	23	38	46
	100	82	74	54	40	36	40	54	74	82
	102.5	123	114	92	75	69	75	92	114	123
	105	161	155	134	115	108	115	134	155	161
	107.5	203	200	179	158	151	158	179	200	203
	110	246	245	224	204	196	204	224	245	246
	112.5	290	293	268	250	242	250	268	293	290
	115	335	345	314	296	288	296	314	345	335
	117.5	379	486	359	340	333	340	359	486	379
	120	424	686	405	385	377	385	405	686	424
	122.5	468	678	452	431	423	431	452	678	468
	125	511	549	498	476	468	476	498	549	511
	127.5	555	579	549	522	514	522	549	579	555
	130	598	631	603	568	560	568	603	631	598
	132.5	640	668	656	614	605	614	656	668	640
	135	682	715	1042	666	652	666	1042	715	682
	137.5	722	752	1347	720	703	720	1347	752	722
140	763	788	958	770	749	770	958	788	763	
142.5	803	832	834	1202	798	1202	834	832	803	
145	841	864	876	1522	1327	1522	876	864	841	
147.5	878	896	911	1012	1471	1012	911	896	878	
150	921	934	944	928	961	928	944	934	921	
152.5	946	973	978	963	957	963	978	973	946	
155	978	1004	1007	999	992	999	1007	1004	978	
157.5	1020	1035	1031	1031	1026	1031	1031	1035	1020	
160	1043	1062	1049	1057	1054	1057	1049	1062	1043	
162.5	1059	1087	1069	1075	1075	1075	1069	1087	1059	
165	1089	1103	1086	1091	1091	1091	1086	1103	1089	
167.5	1116	1116	1104	1108	1106	1108	1104	1116	1116	
170	1125	1122	1121	1124	1122	1124	1121	1122	1125	
172.5	1126	1129	1132	1136	1136	1136	1132	1129	1126	
175	1134	1137	1140	1144	1145	1144	1140	1137	1134	
177.5	1139	1141	1143	1147	1149	1147	1143	1141	1139	
180	1145	1145	1145	1145	1145	1145	1145	1145	1145	



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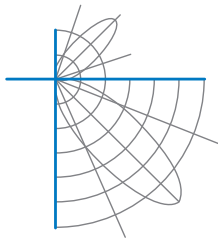
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	96	96	96	96		82	82	82	82		57	57	57		33	33	33		12	12	12	2
1	87	83	79	76		74	71	68	66		49	48	46		29	28	27		11	10	10	2
2	79	72	67	62		68	62	58	54		43	40	38		26	24	23		9	9	8	1
3	72	64	57	52		62	55	49	45		38	35	32		23	21	19		8	8	7	1
4	66	56	49	43		56	48	42	38		34	30	27		20	18	16		7	7	6	1
5	60	50	42	37		51	43	37	32		30	26	23		18	16	14		7	6	5	1
6	55	44	37	31		47	38	32	28		27	23	20		16	14	12		6	5	5	1
7	51	40	32	27		43	34	28	24		24	20	17		14	12	11		5	5	4	1
8	47	36	29	24		40	31	25	21		22	18	15		13	11	9		5	4	4	1
9	43	32	25	21		37	28	22	18		20	16	13		12	10	8		4	4	3	1
10	40	29	23	18		35	25	20	16		18	14	12		11	9	7		4	3	3	1

For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot				
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)		
		0-180 deg	90-270 deg	
6.0	1.0	7.28	4.90	
8.0	0.6	9.70	6.53	
10.0	0.4	12.13	8.16	
12.0	0.3	14.55	9.79	
14.0	0.2	16.98	11.42	
16.0	0.1	19.40	13.05	

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	294	294	294
45	254	117	54
55	226	51	55
65	185	66	105
75	111	146	253
85	15	25	33

Spacing Criterion	
0 degree plane:	1.2
90 degree plane:	0.8
180 degree plane:	1.2
270 degree plane:	0.8



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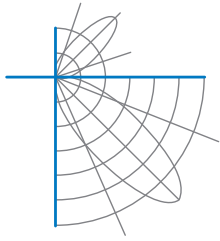
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UGR TABLE - CORRECTED

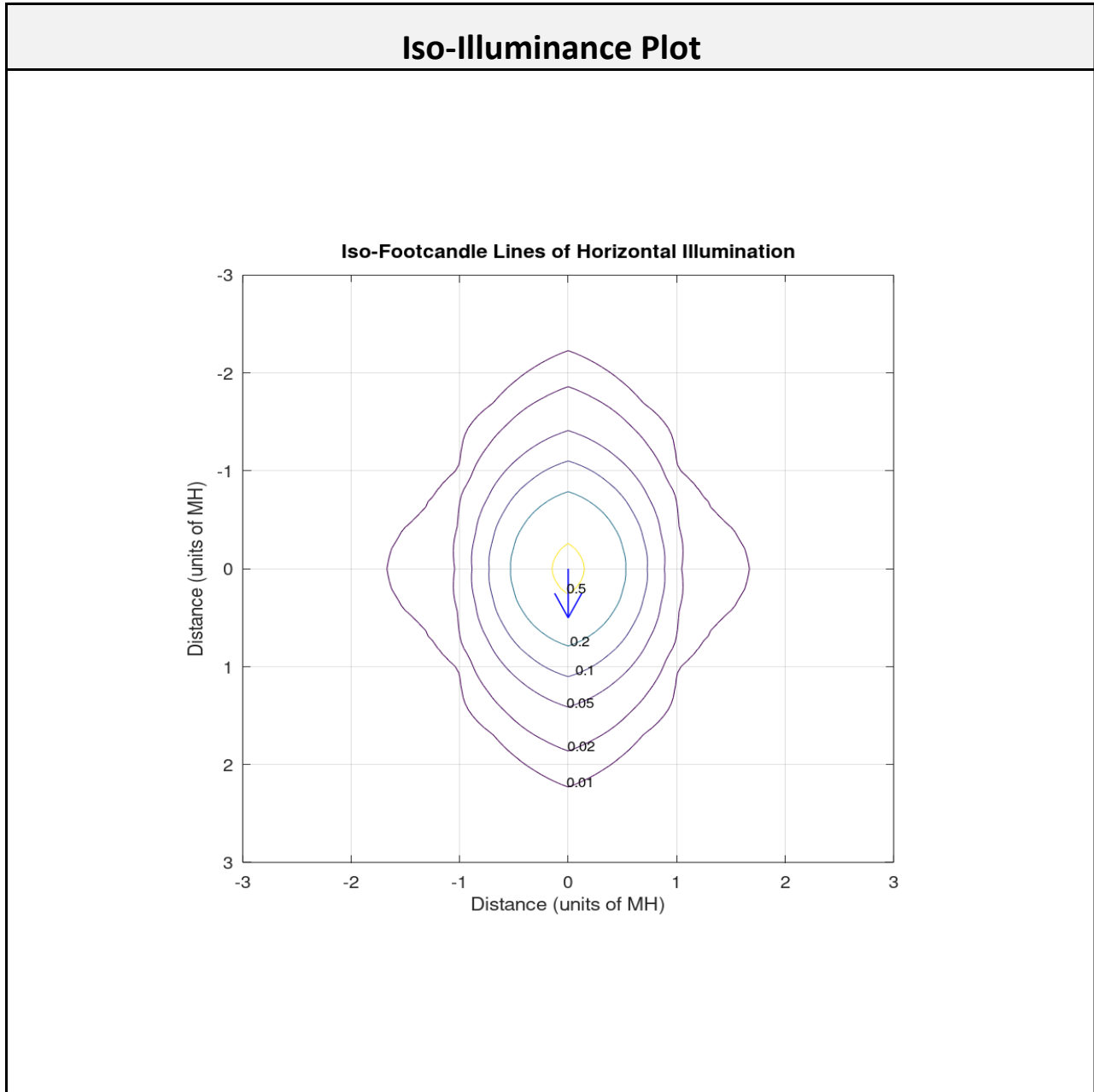
Reflectances										
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	3H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	4H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	6H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	8H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	12H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
4H	2H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	3H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	4H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	6H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	8H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
8H	4H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	6H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	8H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	12H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
12H	4H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	6H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
	8H	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9

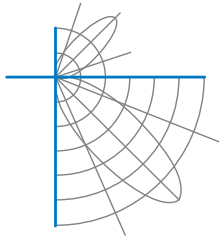
Maximum UGR = 3.9



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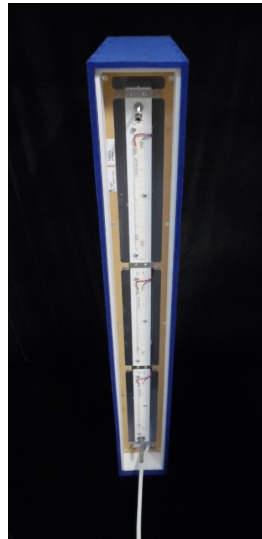


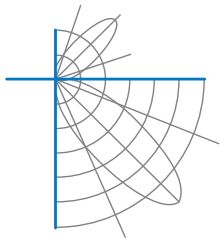
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 24.7 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of IES LM-79-19. Format of reports and angular increments based on IES LM-41-14 and LM-46-04.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE C-Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with ‡ are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.