

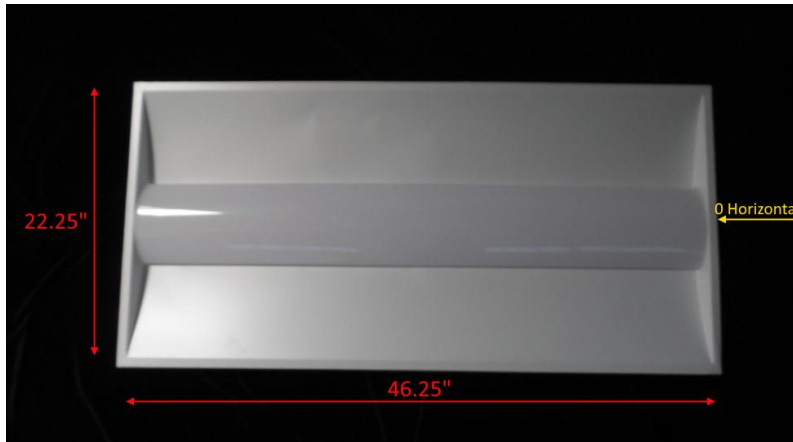
Report of Test

LLIA001876-001

Indoor Distribution Photometry Test Report

Catalog Number: VTC24-40-840-D-87

Recessed mounted, white painted steel housing/reflector,
steel driver cover, translucent white plastic enclosure.
360 white LEDs on 4 white circuit boards with 90 LEDs each.
One Fosen A0380480810 LED driver



Prepared For:

Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

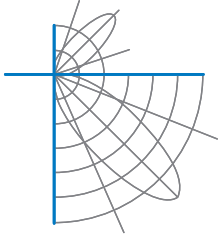
Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	5519.7 Lumens
Input Current	0.3294 A	Total Efficacy	140.7 Lm/W
Input Power	39.24 W	Downward Flux	5519.7 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.993		
Current THD	5.4 %		

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

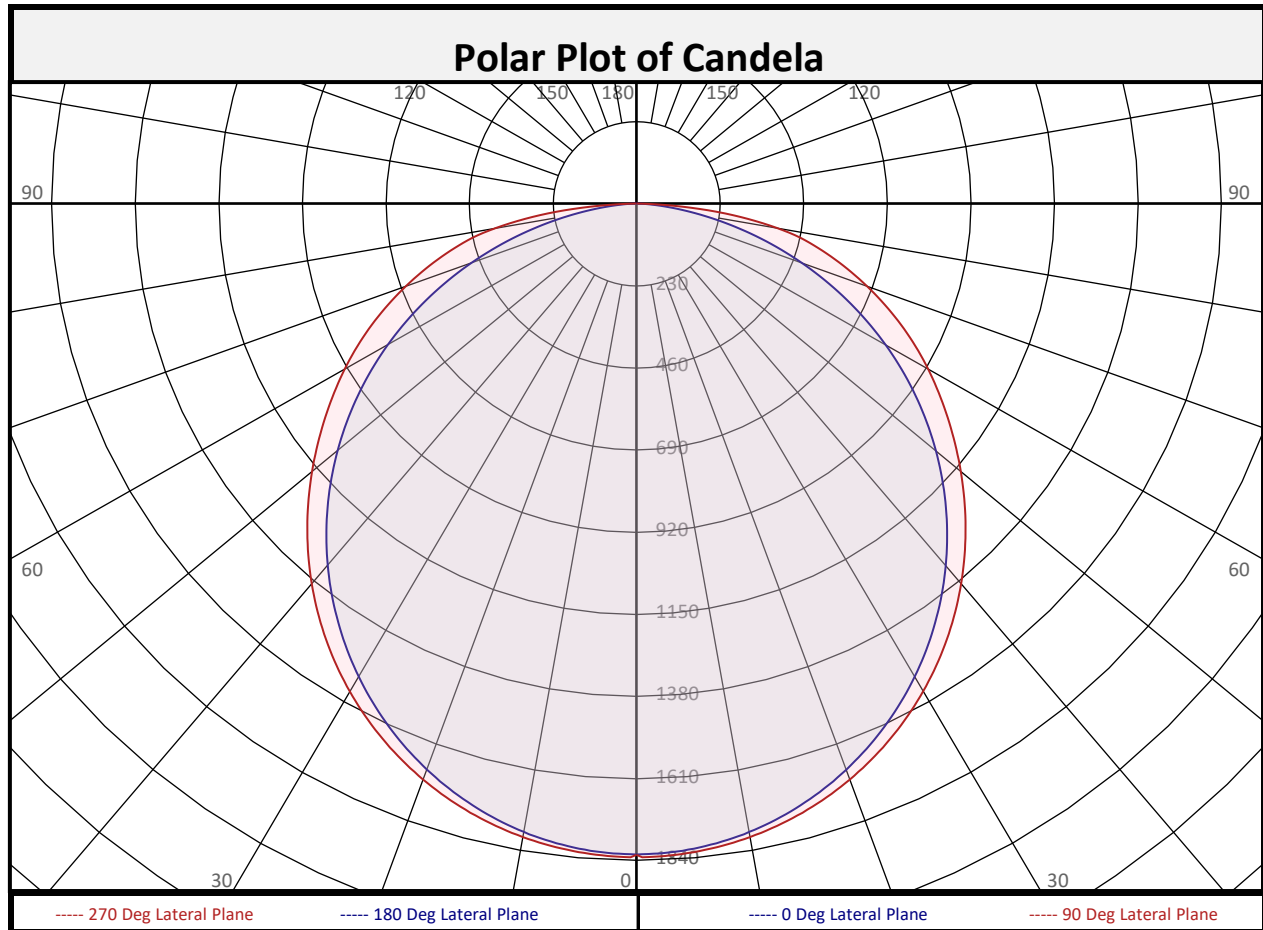
Test date: 09/01/2022

Report date: 09/07/2022

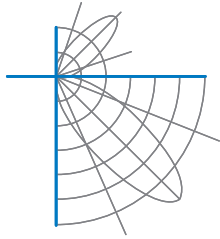
Signed: _____



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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	
0-10	172.7	3.1%		90-100	0.0	0.0%		0-20	667.6	12.1%	
10-20	495.0	9.0%		100-110	0.0	0.0%		0-30	1421	25.7%	
20-30	753.0	13.6%		110-120	0.0	0.0%		0-40	2335	42.3%	
30-40	914.1	16.6%		120-130	0.0	0.0%		0-60	4182	75.8%	
40-50	959.5	17.4%		130-140	0.0	0.0%		0-80	5367	97.2%	
50-60	887.4	16.1%		140-150	0.0	0.0%		10-90	5347	96.9%	
60-70	715.6	13.0%		150-160	0.0	0.0%		20-50	2627	47.6%	
70-80	470.0	8.5%		160-170	0.0	0.0%		40-90	3185	57.7%	
80-90	152.5	2.8%		170-180	0.0	0.0%		60-90	1338	24.2%	
0-90	5520	100.0%		90-180	0.0	0.0%		0-180	5520	100.0%	



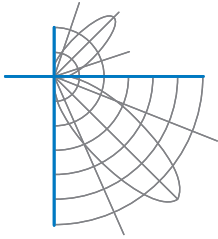
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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	1824	1824	1824	1824	1824	1824	1824	1824	1824
	2.5	1821	1820	1819	1824	1829	1824	1819	1820	1821
	5	1815	1813	1813	1818	1823	1818	1813	1813	1815
	7.5	1803	1802	1803	1809	1814	1809	1803	1802	1803
	10	1788	1788	1789	1796	1801	1796	1789	1788	1788
	12.5	1769	1769	1772	1780	1785	1780	1772	1769	1769
	15	1745	1747	1751	1761	1766	1761	1751	1747	1745
	17.5	1718	1720	1727	1737	1743	1737	1727	1720	1718
	20	1688	1690	1699	1711	1717	1711	1699	1690	1688
	22.5	1654	1657	1667	1681	1686	1681	1667	1657	1654
	25	1616	1620	1632	1647	1653	1647	1632	1620	1616
	27.5	1575	1580	1594	1611	1617	1611	1594	1580	1575
	30	1531	1537	1552	1571	1577	1571	1552	1537	1531
	32.5	1484	1490	1508	1528	1535	1528	1508	1490	1484
	35	1433	1441	1460	1482	1489	1482	1460	1441	1433
	37.5	1380	1389	1410	1433	1441	1433	1410	1389	1380
	40	1324	1334	1357	1382	1390	1382	1357	1334	1324
	42.5	1265	1277	1302	1328	1336	1328	1302	1277	1265
	45	1204	1217	1244	1272	1280	1272	1244	1217	1204
	47.5	1141	1155	1184	1214	1223	1214	1184	1155	1141
50	1075	1090	1122	1154	1165	1154	1122	1090	1075	
52.5	1007	1024	1058	1093	1105	1093	1058	1024	1007	
55	937	955	993	1031	1046	1031	993	955	937	
57.5	865	885	926	970	986	970	926	885	865	
60	791	813	858	908	927	908	858	813	791	
62.5	716	739	791	846	865	846	791	739	716	
65	639	665	724	783	803	783	724	665	639	
67.5	561	590	658	719	739	719	658	590	561	
70	482	515	592	653	674	653	592	515	482	
72.5	403	441	525	586	608	586	525	441	403	
75	325	369	458	519	542	519	458	369	325	
77.5	249	302	391	452	475	452	391	302	249	
80	177	238	323	376	391	376	323	238	177	
82.5	112	176	249	280	289	280	249	176	112	
85	57	115	156	171	174	171	156	115	57	
87.5	19	47	55	56	56	56	55	47	19	
90	0	0	0	0	0	0	0	0	0	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



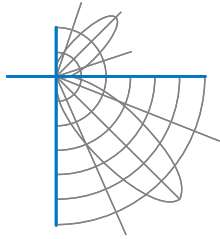
Report of Test

LLIA001876-001

Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	0	0	0	0	0	0	0	0
	92.5	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0
	140	0	0	0	0	0	0	0	0	0
	142.5	0	0	0	0	0	0	0	0	0
	145	0	0	0	0	0	0	0	0	0
	147.5	0	0	0	0	0	0	0	0	0
	150	0	0	0	0	0	0	0	0	0
	152.5	0	0	0	0	0	0	0	0	0
	155	0	0	0	0	0	0	0	0	0
	157.5	0	0	0	0	0	0	0	0	0
	160	0	0	0	0	0	0	0	0	0
	162.5	0	0	0	0	0	0	0	0	0
	165	0	0	0	0	0	0	0	0	0
	167.5	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	63	86	76	68	62	73	66	61	70	65	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	52	63	56	51	60	55	50	48
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	45	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

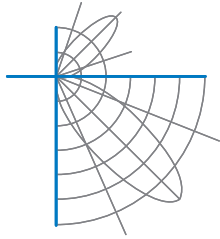
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	50.7	7.49	7.71	
8.0	28.5	9.99	10.28	
10.0	18.2	12.48	12.85	
12.0	12.7	14.98	15.42	
14.0	9.3	17.48	17.99	
16.0	7.1	19.98	20.56	

Spacing Criterion	
0 deg:	1.2
90 deg:	1.3
180 deg:	1.2
270 deg:	1.3

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	2747	2747	2747
45	2565	2650	2728
55	2460	2606	2746
65	2276	2580	2862
75	1894	2664	3156
85	992	2699	3015

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	111.5°
Field Angle:	159.6°
90-270 Degree Plane	
Beam Angle:	120.9°
Field Angle:	169.6°



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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

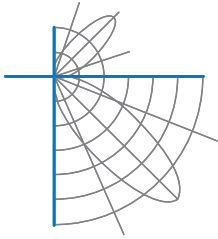
Room Size

UGR Viewed Crosswise

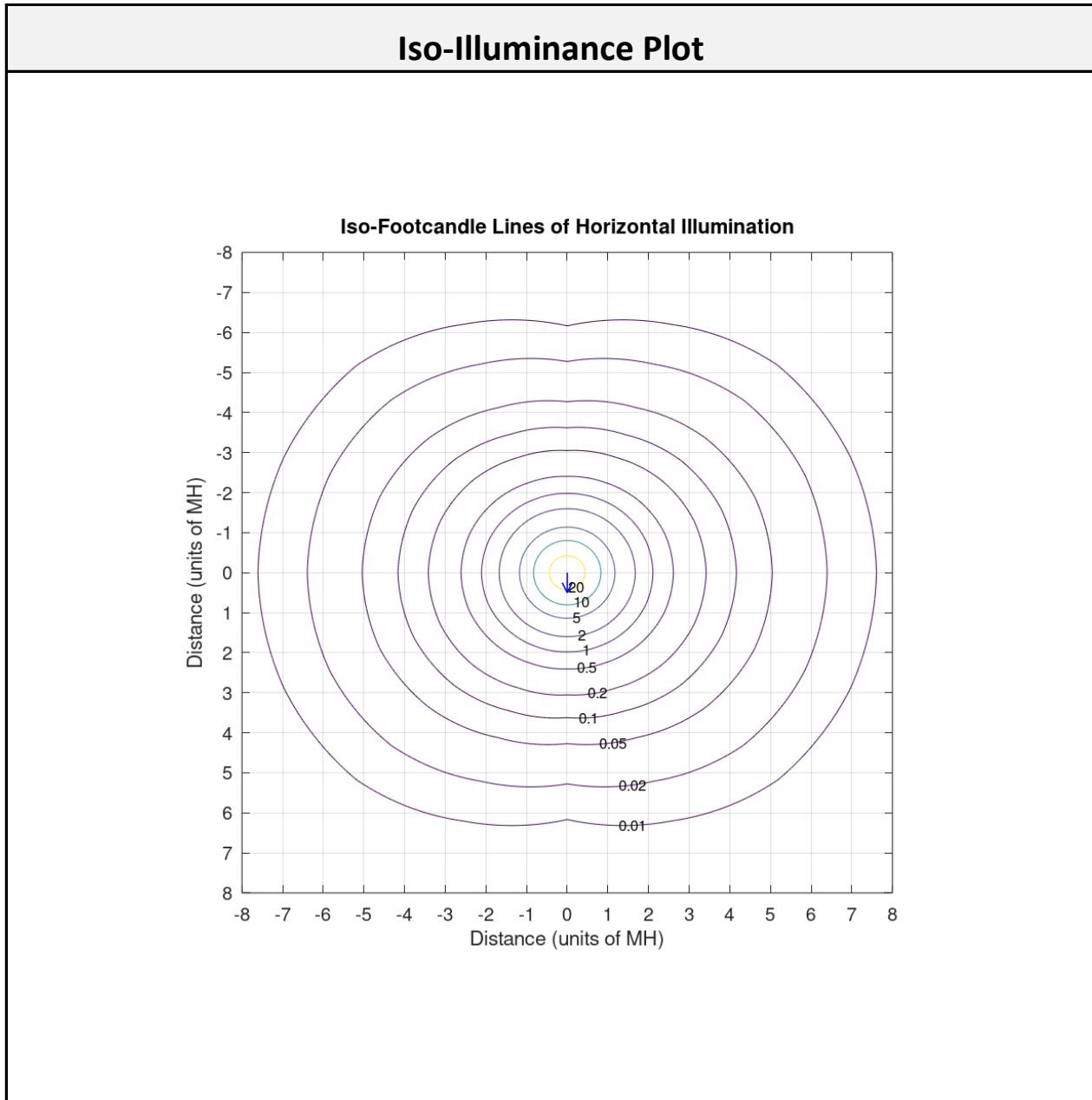
UGR Viewed Endwise

X=2H	Y=2H	15.1	16.8	15.5	17.1	17.4	15.8	17.5	16.2	17.8	18.1
	3H	16.9	18.4	17.3	18.7	19.1	18.1	19.6	18.5	19.9	20.3
	4H	17.5	19.0	17.9	19.3	19.7	19.1	20.6	19.5	20.9	21.3
	6H	18.0	19.3	18.4	19.7	20.1	20.1	21.4	20.5	21.8	22.2
	8H	18.1	19.4	18.5	19.8	20.1	20.4	21.7	20.8	22.1	22.5
	12H	18.1	19.4	18.6	19.7	20.2	20.7	21.9	21.1	22.3	22.7
4H	2H	15.9	17.3	16.3	17.7	18.0	16.4	17.9	16.8	18.2	18.6
	3H	17.9	19.2	18.3	19.5	19.9	19.0	20.2	19.4	20.6	21.0
	4H	18.7	19.8	19.1	20.2	20.7	20.2	21.3	20.6	21.7	22.1
	6H	19.3	20.3	19.7	20.7	21.2	21.3	22.3	21.8	22.7	23.2
	8H	19.5	20.4	19.9	20.8	21.3	21.7	22.6	22.2	23.1	23.6
	12H	19.5	20.4	20.0	20.9	21.3	22.0	22.9	22.5	23.3	23.8
8H	4H	19.3	20.2	19.7	20.6	21.1	20.5	21.4	21.0	21.9	22.3
	6H	20.0	20.8	20.5	21.3	21.8	21.8	22.6	22.3	23.1	23.6
	8H	20.3	21.0	20.8	21.5	22.0	22.4	23.1	22.9	23.6	24.1
	12H	20.5	21.1	21.0	21.6	22.1	22.8	23.4	23.3	23.9	24.5
12H	4H	19.4	20.2	19.9	20.7	21.2	20.6	21.4	21.0	21.9	22.3
	6H	20.3	20.9	20.8	21.4	21.9	21.9	22.6	22.5	23.1	23.6
	8H	20.6	21.2	21.1	21.7	22.2	22.5	23.1	23.0	23.6	24.2

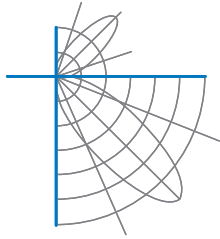
Maximum UGR = 24.5



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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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Test Distance 9.5 m
Ambient Temperature 25.3 °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-41-20 and LM-46-20.

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.

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