



Report of Test

LLIA001282-004

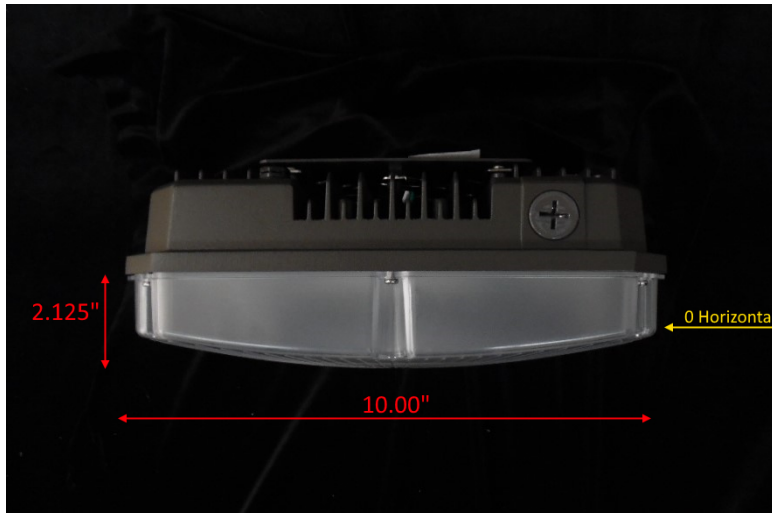
Indoor Distribution Photometry Test Report

Catalog Number: F-CPS/60W/50K/BZ-87

Surface mounted, cast aluminum housing, white enamel steel reflector, lightly frosted plastic enclosure.

210 White LEDs, one L2252(129x115x1.5)210 LED 15C14B LED board

One WeledPower WP-CHA-062U LED driver



Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

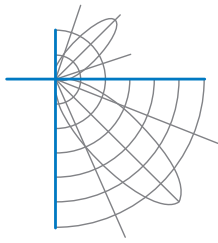
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	7824.6 Lumens
Input Current	0.4877 A	Total Efficacy	134.3 Lm/W
Input Power	58.26 W	Downward Flux	7351.7 Lumens
Frequency	60.00 Hz	Downward Flux	94.0 % of Total
Power Factor	0.996		
Current THD	3.4 %		

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

Test date: 07/16/2020

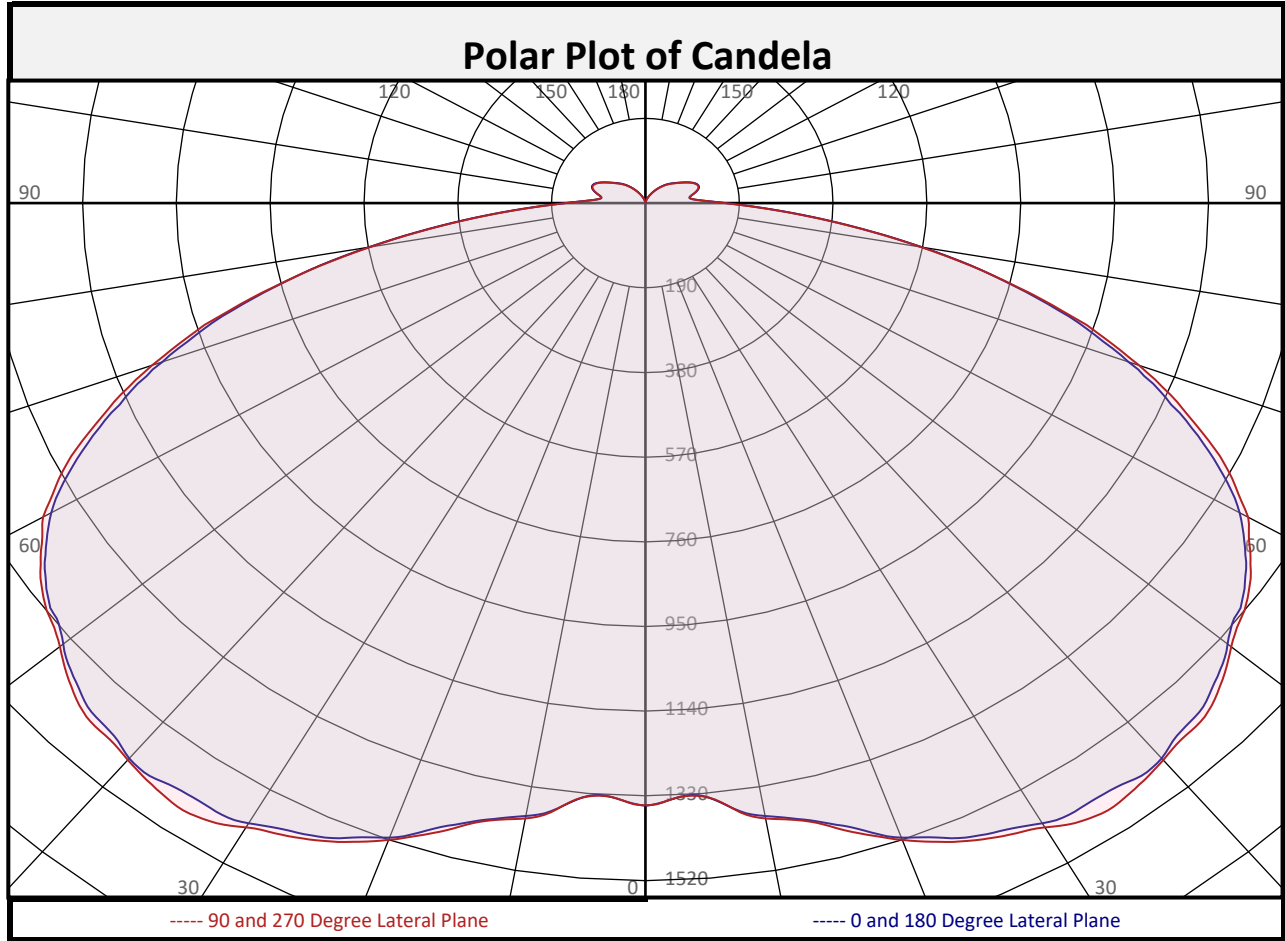
Report date: 07/17/2020

Signed: _____

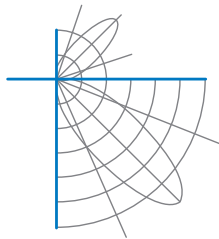


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Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	130.2	1.7%		90-100	120.5	1.5%		0-20	543.4	6.9%
10-20	413.2	5.3%		100-110	108.3	1.4%		0-30	1271	16.2%
20-30	728.1	9.3%		110-120	98.6	1.3%		0-40	2297	29.4%
30-40	1026	13.1%		120-130	68.6	0.9%		0-60	4864	62.2%
40-50	1235	15.8%		130-140	44.0	0.6%		0-80	6983	89.2%
50-60	1332	17.0%		140-150	22.7	0.3%		10-90	7221	92.3%
60-70	1251	16.0%		150-160	8.5	0.1%		20-50	2988	38.2%
70-80	867.9	11.1%		160-170	1.8	0.0%		40-90	5055	64.6%
80-90	368.5	4.7%		170-180	0.1	0.0%		60-90	2488	31.8%
0-90	7352	94.0%		90-180	473.0	6.0%		0-180	7825	100.0%

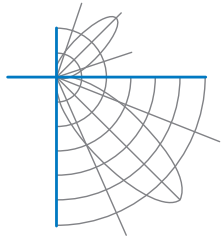


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	1351	1351	1351	1351	1351	1351	1351	1351	1351
	2.5	1337	1336	1336	1337	1337	1337	1336	1336	1337
	5	1335	1333	1333	1334	1336	1334	1333	1333	1335
	7.5	1370	1369	1369	1369	1371	1369	1369	1369	1370
	10	1396	1399	1402	1401	1402	1401	1402	1399	1396
	12.5	1415	1417	1417	1420	1418	1420	1417	1417	1415
	15	1441	1445	1451	1450	1447	1450	1451	1445	1441
	17.5	1476	1478	1483	1486	1485	1486	1483	1478	1476
	20	1515	1514	1515	1519	1520	1519	1515	1514	1515
	22.5	1540	1546	1553	1553	1551	1553	1553	1546	1540
	25	1568	1569	1573	1579	1577	1579	1573	1569	1568
	27.5	1584	1590	1594	1597	1597	1597	1594	1590	1584
	30	1606	1609	1612	1616	1617	1616	1612	1609	1606
	32.5	1619	1633	1632	1633	1644	1633	1632	1633	1619
	35	1618	1644	1636	1634	1653	1634	1636	1644	1618
	37.5	1628	1635	1635	1640	1643	1640	1635	1635	1628
	40	1626	1625	1627	1630	1631	1630	1627	1625	1626
	42.5	1606	1614	1616	1618	1619	1618	1616	1614	1606
	45	1598	1598	1600	1610	1612	1610	1600	1598	1598
	47.5	1572	1572	1571	1581	1584	1581	1571	1572	1572
50	1539	1545	1547	1550	1548	1550	1547	1545	1539	
52.5	1511	1519	1523	1524	1522	1524	1523	1519	1511	
55	1482	1490	1492	1497	1493	1497	1492	1490	1482	
57.5	1440	1451	1452	1460	1452	1460	1452	1451	1440	
60	1389	1411	1416	1425	1409	1425	1416	1411	1389	
62.5	1319	1346	1364	1368	1340	1368	1364	1346	1319	
65	1235	1269	1295	1285	1257	1285	1295	1269	1235	
67.5	1141	1169	1202	1187	1165	1187	1202	1169	1141	
70	1041	1066	1092	1082	1064	1082	1092	1066	1041	
72.5	937	956	964	969	954	969	964	956	937	
75	820	832	815	839	828	839	815	832	820	
77.5	699	695	664	696	699	696	664	695	699	
80	569	569	527	564	567	564	527	569	569	
82.5	442	447	411	441	441	441	411	447	442	
85	329	335	311	331	327	331	311	335	329	
87.5	234	241	227	239	233	239	227	241	234	
90	164	171	163	170	164	170	163	171	164	

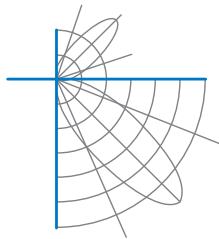


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	90	164	171	163	170	164	170	163	171	164
	92.5	120	127	122	127	121	127	122	127	120
	95	98	103	99	103	99	103	99	103	98
	97.5	90	94	88	94	91	94	88	94	90
	100	93	95	87	95	93	95	87	95	93
	102.5	101	101	91	100	101	100	91	101	101
	105	108	107	95	106	108	106	95	107	108
	107.5	113	110	97	109	112	109	97	110	113
	110	115	111	96	109	114	109	96	111	115
	112.5	112	108	93	106	111	106	93	108	112
	115	108	103	89	101	107	101	89	103	108
	117.5	101	96	84	95	100	95	84	96	101
	120	94	89	79	88	93	88	79	89	94
	122.5	86	83	74	82	85	82	74	83	86
	125	80	77	70	76	79	76	70	77	80
	127.5	74	72	67	71	73	71	67	72	74
	130	69	67	63	66	68	66	63	67	69
	132.5	64	63	59	61	63	61	59	63	64
	135	59	57	55	56	58	56	55	57	59
	137.5	53	52	50	51	52	51	50	52	53
140	47	46	45	46	47	46	45	46	47	
142.5	42	41	40	40	41	40	40	41	42	
145	36	35	36	35	36	35	36	35	36	
147.5	31	30	31	30	31	30	31	30	31	
150	26	26	26	25	26	25	26	26	26	
152.5	22	21	22	21	22	21	22	21	22	
155	18	17	18	17	18	17	18	17	18	
157.5	15	14	14	13	15	13	14	14	15	
160	12	10	11	10	12	10	11	10	12	
162.5	9	8	8	8	9	8	8	8	9	
165	7	6	5	6	7	6	5	6	7	
167.5	4	4	3	4	4	4	3	4	4	
170	3	2	0	2	3	2	0	2	3	
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	



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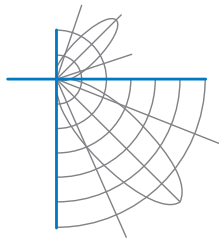
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	118	118	118	118		114	114	114	114		108	108	108		102	102	102		96	96	96	94
1	105	99	94	89		101	96	91	87		90	87	83		85	82	79		81	78	76	73
2	94	84	76	69		90	81	74	68		77	71	65		72	67	63		68	64	60	58
3	84	72	63	55		81	70	61	54		66	59	52		62	56	51		59	54	49	46
4	76	63	53	45		73	61	52	44		57	49	43		54	47	42		51	45	41	38
5	69	55	45	38		67	54	44	37		51	42	36		48	41	35		45	39	34	32
6	64	49	39	32		61	48	38	32		45	37	31		43	36	30		41	34	29	27
7	59	44	34	28		56	43	34	27		41	33	27		39	31	26		37	30	25	23
8	54	40	31	24		52	39	30	24		37	29	23		35	28	23		33	27	22	20
9	50	36	27	21		49	35	27	21		34	26	21		32	25	20		31	24	20	18
10	47	33	25	19		45	32	24	19		31	24	18		30	23	18		28	22	18	16

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	37.5	10.63	10.68	
8.0	21.1	14.18	14.24	
10.0	13.5	17.72	17.80	
12.0	9.4	21.26	21.36	
14.0	6.9	24.81	24.92	
16.0	5.3	28.35	28.48	

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	20947	20947	20947
45	28882	26964	29135
55	30725	28217	30963
65	31110	28876	31668
75	27399	22996	27662
85	17062	12468	16976

Spacing Criterion	
0 degree plane:	1.8
90 degree plane:	1.8
180 degree plane:	1.8
270 degree plane:	1.8



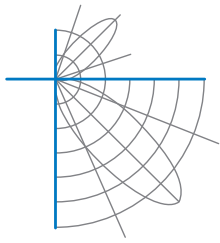
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UGR TABLE - CORRECTED

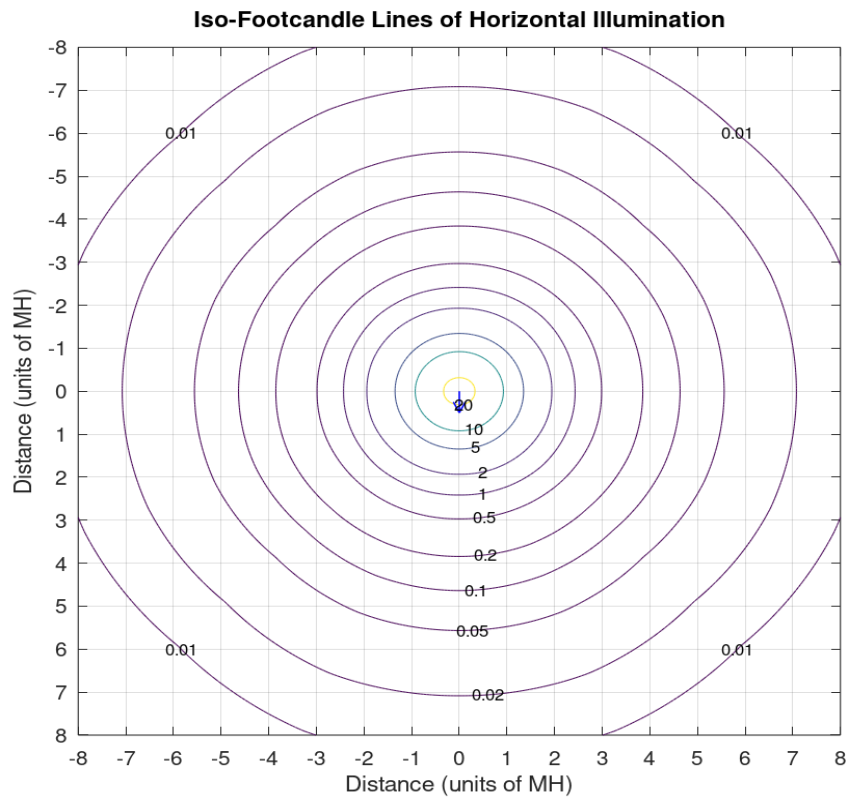
Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	23.9	25.5	24.3	26.0	26.4	23.9	25.6	24.4	26.0	26.5
	3H	26.2	27.7	26.6	28.1	28.6	26.2	27.7	26.7	28.2	28.7
	4H	27.0	28.5	27.5	28.9	29.4	27.1	28.5	27.6	29.0	29.5
	6H	27.7	29.0	28.2	29.5	30.0	27.7	29.1	28.2	29.6	30.1
	8H	27.9	29.2	28.4	29.7	30.2	28.0	29.2	28.5	29.7	30.3
	12H	28.1	29.3	28.6	29.8	30.4	28.1	29.4	28.6	29.8	30.4
4H	2H	24.7	26.1	25.2	26.6	27.1	24.7	26.2	25.2	26.6	27.1
	3H	27.1	28.4	27.6	28.9	29.4	27.2	28.4	27.7	28.9	29.5
	4H	28.1	29.2	28.6	29.7	30.3	28.2	29.3	28.7	29.8	30.4
	6H	28.9	29.9	29.4	30.4	31.0	28.9	29.9	29.5	30.5	31.1
	8H	29.2	30.1	29.7	30.6	31.2	29.2	30.1	29.7	30.7	31.3
	12H	29.4	30.2	29.9	30.8	31.4	29.4	30.3	30.0	30.8	31.4
8H	4H	28.5	29.4	29.0	29.9	30.5	28.5	29.5	29.1	30.0	30.6
	6H	29.3	30.1	29.9	30.7	31.3	29.4	30.2	30.0	30.8	31.4
	8H	29.7	30.4	30.3	31.0	31.6	29.7	30.4	30.3	31.0	31.7
	12H	30.0	30.6	30.6	31.2	31.9	30.0	30.7	30.6	31.3	31.9
12H	4H	28.5	29.3	29.1	29.9	30.5	28.6	29.4	29.1	30.0	30.6
	6H	29.4	30.1	30.0	30.7	31.4	29.5	30.2	30.1	30.7	31.4
	8H	29.8	30.5	30.4	31.0	31.7	29.9	30.5	30.4	31.1	31.8

Maximum UGR = 31.9

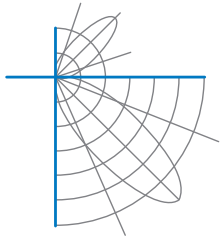


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Iso-Illuminance Plot

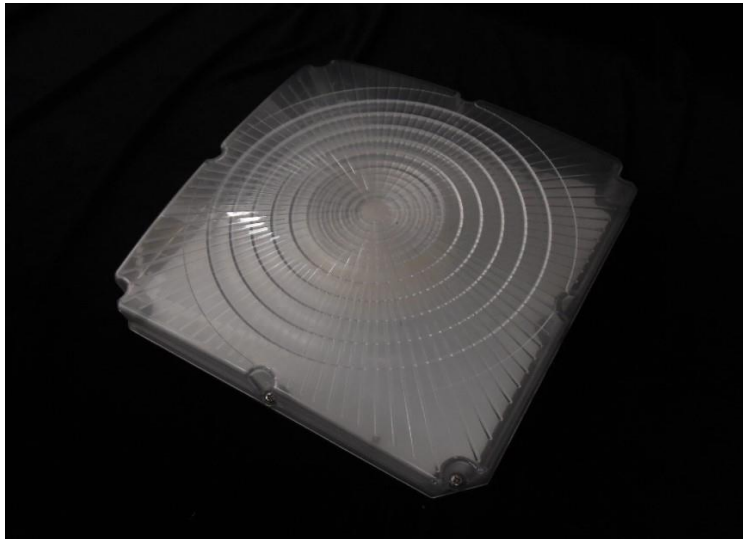
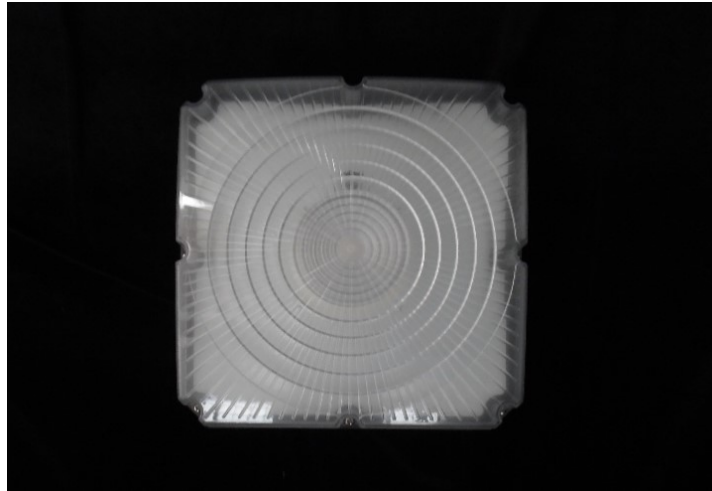


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 25.1 °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.