

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P775777

Luminaire Tested: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775777  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B013)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K  
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1064.2 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

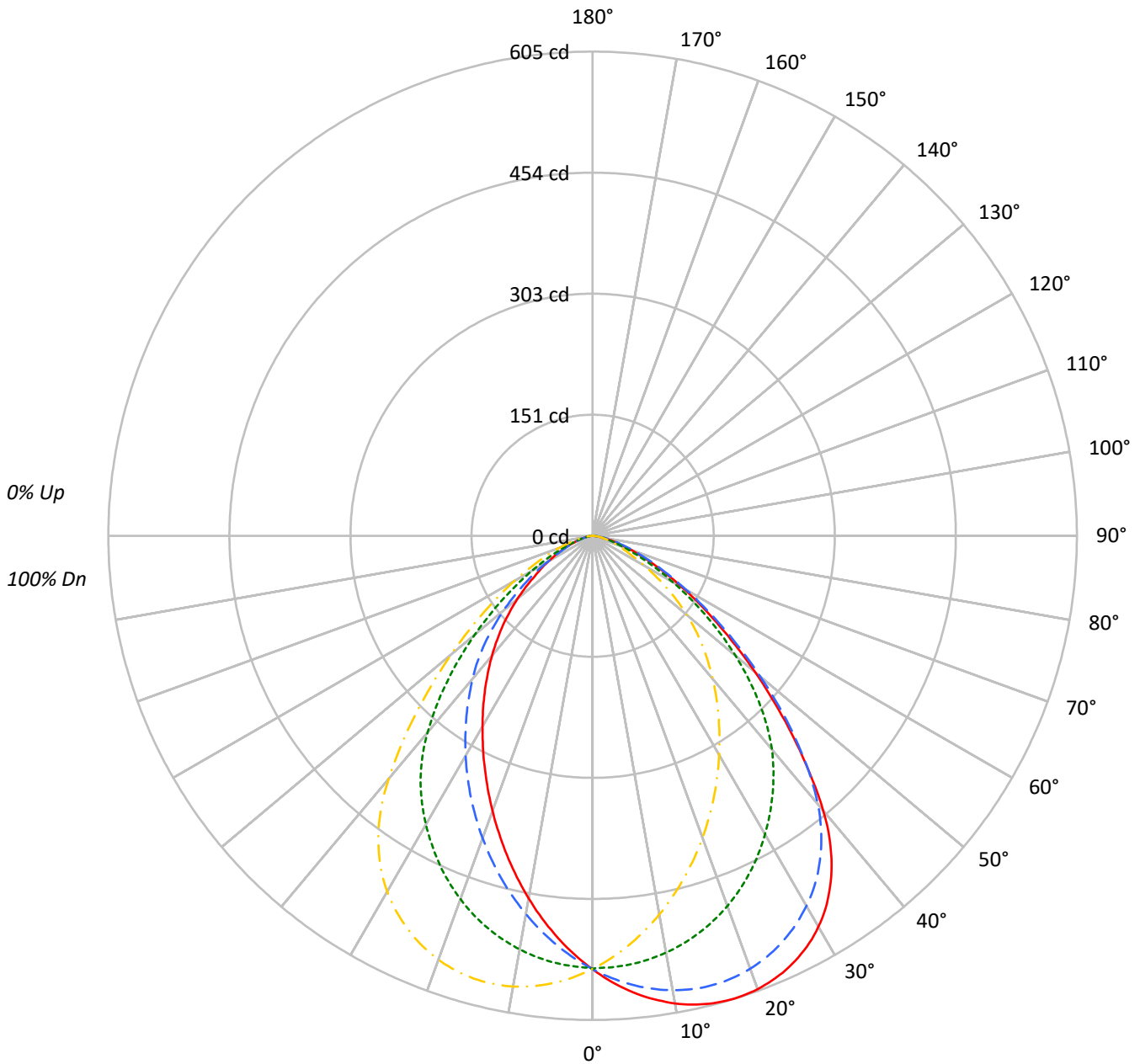
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P775777

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					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	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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89								
2	103	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77								
3	95	86	79	74	93	85	78	73	82	76	72	79	75	71	77	73	70	68								
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60								
5	82	70	63	57	80	69	62	56	67	61	56	66	60	55	64	59	55	53								
6	76	64	56	51	74	63	56	50	62	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	45	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	29674	29674	29674	29674
5°	31499	29589	27724	29474
10°	33027	29442	25612	29208
15°	34262	29155	23456	28786
20°	35166	28720	21334	28183
25°	35694	28090	19302	27371
30°	35708	27270	17420	26365
35°	34780	26241	15667	25089
40°	32082	24925	13990	22936
45°	27398	22778	12288	19886
50°	22575	19871	10464	16400
55°	18112	16382	8478	12817
60°	14231	12685	6995	9604
65°	10818	9301	5474	6862
70°	7982	6524	4071	4728
75°	5655	4533	3029	3114
80°	3567	3252	2147	1957
85°	1195	2516	1132	1006

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 28166 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.0	4.8
10°-20°	143.5	13.5
20°-30°	209.8	19.7
30°-40°	235.8	22.2
40°-50°	203.4	19.1
50°-60°	130.6	12.3
60°-70°	63.4	6.0
70°-80°	22.7	2.1
80°-90°	3.9	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	404.4	38.0
0°-40°	640.2	60.2
0°-60°	974.3	91.5
0°-90°	1064.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1064.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	541	541	541	541	541	
5°	572	538	504	536	572	55
15°	604	514	413	507	604	171
25°	590	464	319	452	590	272
35°	520	392	234	375	520	322
45°	353	294	158	256	353	273
55°	190	171	89	134	190	171
65°	83	72	42	53	83	84
75°	27	21	14	15	27	29
85°	2	4	2	2	2	4
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	541.3	541.3	541.3	541.3	541.3	541.3	541.3	541.3	541.3	541.3	541.3
0.5°	545.4	544.9	544.1	542.9	540.0	539.2	538.8	538.6	538.4	538.5	539.1
1°	548.6	548.0	546.5	544.1	540.0	538.0	536.3	535.4	534.8	535.1	536.4
1.5°	551.9	551.2	548.8	545.4	540.0	536.4	533.8	532.0	531.2	531.7	533.9
2°	555.1	554.2	551.1	546.6	539.9	535.0	531.2	528.6	527.5	528.4	531.1
2.5°	558.2	557.0	553.3	547.6	539.7	533.4	528.4	525.0	523.7	524.7	528.3
3°	561.2	559.8	555.3	548.7	539.3	531.9	525.7	521.5	519.8	521.1	525.4
3.5°	564.1	562.4	557.5	549.7	539.0	530.2	522.8	517.8	515.9	517.5	522.6
4°	566.9	565.2	559.3	550.5	538.6	528.5	519.9	514.1	511.9	513.8	519.6
4.5°	569.7	567.6	561.3	551.4	538.2	526.6	516.9	510.3	507.9	510.0	516.6
5°	572.4	570.2	563.1	552.1	537.7	524.8	513.9	506.5	503.8	506.1	513.4
5.5°	574.9	572.5	564.8	552.8	537.1	522.8	510.8	502.7	499.7	502.3	510.3
6°	577.4	574.8	566.5	553.4	536.4	520.8	507.6	498.6	495.3	498.3	507.1
6.5°	579.6	577.0	568.0	554.0	535.7	518.8	504.3	494.7	491.2	494.3	503.9
7°	581.9	579.0	569.5	554.5	534.9	516.7	501.1	490.7	486.8	490.3	500.6
7.5°	584.1	581.0	570.9	554.8	534.1	514.5	497.8	486.5	482.5	486.3	497.3
8°	586.1	583.0	572.2	555.1	533.1	512.3	494.4	482.5	478.0	482.1	493.9
8.5°	588.0	584.8	573.4	555.4	532.2	510.0	490.9	478.1	473.7	477.9	490.4
9°	589.9	586.5	574.6	555.5	531.2	507.6	487.4	474.0	469.1	473.8	487.0
9.5°	591.7	588.1	575.6	555.7	530.0	505.3	483.9	469.7	464.5	469.4	483.4
10°	593.3	589.7	576.5	555.7	528.9	502.8	480.4	465.5	460.1	465.2	480.0
10.5°	594.9	591.1	577.5	555.6	527.6	500.3	476.8	461.1	455.6	460.9	476.4
11°	596.3	592.4	578.3	555.5	526.4	497.7	473.0	456.7	450.9	456.6	472.7
11.5°	597.6	593.6	578.9	555.3	524.9	495.0	469.3	452.3	446.2	452.2	469.0
12°	598.8	594.7	579.5	555.0	523.6	492.4	465.6	447.9	441.7	447.9	465.4
12.5°	600.0	595.7	580.1	554.7	522.0	489.6	461.9	443.4	437.0	443.3	461.6
13°	600.9	596.5	580.5	554.3	520.6	486.9	458.0	439.0	432.2	439.0	457.8
13.5°	601.8	597.4	580.8	553.6	518.9	484.1	454.2	434.5	427.6	434.5	454.1
14°	602.5	598.0	581.0	553.1	517.3	481.2	450.2	429.8	422.8	430.0	450.2
14.5°	603.2	598.6	581.0	552.4	515.5	478.3	446.3	425.3	418.1	425.4	446.3
15°	603.7	599.0	581.1	551.6	513.7	475.3	442.4	420.7	413.3	420.9	442.4
15.5°	604.1	599.3	581.0	550.7	511.9	472.3	438.3	416.3	408.6	416.5	438.4
16°	604.4	599.6	580.8	549.9	509.9	469.3	434.4	411.6	403.8	411.9	434.5
16.5°	604.6	599.6	580.6	548.9	508.0	466.1	430.3	406.9	399.1	407.4	430.6
17°	604.7	599.6	580.2	547.7	505.9	463.0	426.3	402.4	394.3	402.8	426.5
17.5°	604.6	599.6	579.6	546.5	503.8	459.8	422.2	397.7	389.4	398.1	422.5
18°	604.5	599.4	579.1	545.4	501.6	456.6	418.0	393.1	384.8	393.7	418.4
18.5°	604.2	599.1	578.3	543.9	499.4	453.3	413.9	388.5	380.0	389.0	414.3
19°	603.9	598.7	577.6	542.6	497.0	449.9	409.7	383.8	375.2	384.4	410.3
19.5°	603.4	598.2	576.6	541.0	494.7	446.6	405.7	379.2	370.5	379.9	406.2
20°	602.8	597.6	575.7	539.3	492.3	443.2	401.6	374.6	365.7	375.3	402.1
20.5°	602.0	596.7	574.6	537.7	489.7	439.8	397.2	370.1	361.2	370.7	397.9
21°	601.2	595.9	573.4	535.9	487.1	436.3	393.0	365.4	356.3	366.1	393.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	598.0	592.7	569.3	530.0	479.2	425.6	380.4	351.7	342.3	352.5	381.1
23°	596.6	591.4	567.6	528.0	476.4	422.0	376.1	347.1	337.5	347.9	376.9
23.5°	595.3	589.9	566.0	525.8	473.5	418.3	371.8	342.6	333.0	343.3	372.7
24°	593.6	588.3	564.1	523.4	470.6	414.6	367.6	337.9	328.3	338.8	368.5
24.5°	592.0	586.7	562.2	521.1	467.6	411.0	363.2	333.5	323.6	334.2	364.3
25°	590.1	584.9	560.2	518.6	464.4	407.3	358.9	328.8	319.1	329.8	360.0
25.5°	588.1	583.0	558.1	516.1	461.4	403.4	354.7	324.5	314.6	325.3	355.8
26°	586.2	581.0	555.9	513.4	458.2	399.6	350.5	319.9	310.2	320.9	351.4
26.5°	583.9	578.8	553.5	510.9	455.0	395.8	346.1	315.5	305.6	316.3	347.2
27°	581.6	576.5	551.1	508.0	451.8	391.9	341.8	311.0	301.2	311.9	342.9
27.5°	579.1	574.2	548.6	505.2	448.4	388.0	337.5	306.8	296.7	307.5	338.7
28°	576.5	571.6	545.9	502.2	445.0	384.0	333.3	302.3	292.4	303.1	334.4
28.5°	573.7	569.0	543.1	499.1	441.5	380.1	329.0	298.0	288.0	298.8	330.2
29°	570.7	566.2	540.2	495.9	438.0	376.2	324.7	293.5	283.8	294.4	325.8
29.5°	567.5	563.2	537.3	492.8	434.5	372.1	320.4	289.4	279.4	290.0	321.6
30°	564.1	560.1	534.2	489.6	430.8	368.2	316.1	285.0	275.2	285.7	317.2
30.5°	560.6	556.8	531.0	486.1	427.1	364.2	311.9	280.8	270.9	281.4	313.0
31°	557.0	553.2	527.6	482.7	423.5	360.0	307.7	276.6	266.8	277.1	308.7
31.5°	553.0	549.5	524.2	479.2	419.6	356.0	303.4	272.4	262.5	272.9	304.4
32°	549.1	545.6	520.6	475.5	415.9	351.9	299.2	268.2	258.5	268.6	300.2
32.5°	544.7	541.4	516.8	471.8	412.0	347.8	295.0	264.1	254.3	264.5	296.0
33°	540.0	537.2	512.8	468.1	408.1	343.5	290.7	260.0	250.3	260.3	291.5
33.5°	535.0	532.7	508.7	464.2	404.3	339.4	286.6	256.0	246.3	256.1	287.3
34°	530.2	528.2	504.3	460.2	400.2	335.3	282.3	251.9	242.2	252.2	283.1
34.5°	524.9	523.2	499.8	456.1	396.2	331.1	278.2	247.8	238.1	248.0	278.9
35°	519.7	518.1	495.1	451.9	392.1	327.0	274.0	243.8	234.1	243.9	274.6
35.5°	514.0	512.9	490.2	447.6	388.1	322.7	269.9	239.8	230.2	239.9	270.4
36°	507.9	507.3	485.3	443.1	383.9	318.6	265.8	235.9	226.4	235.9	266.3
36.5°	501.6	501.6	480.1	438.3	379.6	314.3	261.7	231.9	222.3	231.9	262.0
37°	495.0	495.6	474.7	433.6	375.4	310.2	257.6	227.9	218.5	227.8	257.9
37.5°	488.2	489.3	469.1	428.5	371.1	305.8	253.5	224.1	214.6	223.9	253.6
38°	481.0	482.9	463.3	423.4	366.6	301.6	249.4	220.2	210.7	219.9	249.5
38.5°	473.4	476.2	457.3	418.1	362.2	297.4	245.3	216.3	207.0	216.0	245.3
39°	465.6	469.1	451.1	412.6	357.7	293.1	241.4	212.4	203.2	212.1	241.3
39.5°	457.2	461.4	444.7	406.9	353.1	288.9	237.3	208.7	199.3	208.1	237.2
40°	448.3	453.5	437.8	401.0	348.3	284.6	233.2	204.8	195.5	204.3	233.1
40.5°	439.1	445.3	430.6	395.0	343.3	280.3	229.3	201.0	191.8	200.5	229.1
41°	429.7	436.8	423.1	388.7	338.4	276.2	225.2	197.2	188.0	196.5	225.1
41.5°	420.3	427.7	415.4	382.3	333.2	272.0	221.3	193.3	184.2	192.8	221.0
42°	410.5	418.7	407.7	375.7	328.0	267.7	217.3	189.6	180.6	189.0	216.8
42.5°	400.9	409.5	399.7	369.0	322.5	263.4	213.4	185.9	176.8	185.2	212.6
43°	391.4	400.3	391.5	362.2	316.8	258.9	209.5	182.1	173.1	181.5	208.2
43.5°	381.8	391.1	383.1	355.2	311.2	254.3	205.6	178.4	169.5	177.8	203.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	353.4	363.3	358.4	334.0	293.8	240.1	194.1	167.3	158.5	166.7	190.6
45.5°	344.4	354.2	349.8	326.8	287.7	235.2	190.3	163.7	154.9	163.1	186.1
46°	335.1	345.0	341.3	319.6	281.8	230.3	186.4	160.0	151.3	159.3	181.5
46.5°	325.6	335.7	332.8	312.1	275.7	225.3	182.4	156.3	147.5	155.6	177.2
47°	316.8	326.6	324.3	304.8	269.6	220.4	178.3	152.7	144.0	151.8	172.6
47.5°	307.5	317.5	315.6	297.2	263.5	215.3	174.3	149.1	140.4	148.0	167.9
48°	298.8	308.6	307.1	289.9	257.4	210.3	170.2	145.6	136.9	144.2	163.4
48.5°	290.3	299.9	298.6	282.3	251.2	205.3	166.1	141.8	133.2	140.4	158.9
49°	281.5	291.2	290.1	275.0	245.1	200.3	161.9	138.2	129.6	136.5	154.4
49.5°	273.2	282.5	281.9	267.4	238.9	195.2	157.8	134.7	126.1	132.7	149.8
50°	264.7	273.9	273.3	259.8	233.0	190.1	153.7	131.2	122.7	129.0	145.2
50.5°	256.2	265.5	265.2	252.3	226.7	184.9	149.5	127.4	119.1	125.0	140.9
51°	248.4	257.2	257.1	245.0	220.4	179.7	145.2	123.7	115.5	121.1	136.3
51.5°	240.5	249.2	249.2	237.7	214.2	174.9	141.1	120.2	112.1	117.4	132.1
52°	232.5	241.2	241.3	230.4	208.1	169.8	137.0	116.7	108.7	113.5	127.6
52.5°	225.2	233.3	233.5	222.9	201.8	164.7	132.7	112.9	105.2	109.8	123.3
53°	217.5	225.7	225.9	215.9	195.6	159.6	128.7	109.3	101.7	106.0	118.9
53.5°	210.3	218.2	218.4	208.9	189.5	154.7	124.5	105.8	98.2	102.3	114.7
54°	203.0	210.7	211.0	201.9	183.5	149.7	120.3	102.2	94.9	98.5	110.4
54.5°	195.9	203.6	204.0	195.0	177.4	144.8	116.2	98.5	91.5	94.9	106.3
55°	189.5	196.5	196.7	188.1	171.4	140.1	112.2	95.1	88.7	91.5	102.2
55.5°	182.6	189.7	189.9	181.5	165.3	135.1	108.2	91.6	86.0	88.0	98.2
56°	176.4	183.0	183.2	175.0	159.4	130.2	104.1	88.4	83.2	84.5	94.2
56.5°	169.9	176.4	176.5	168.5	153.7	125.6	100.2	85.2	80.4	81.1	90.4
57°	163.9	170.0	170.1	162.1	148.0	120.8	96.3	81.9	78.4	77.7	86.7
57.5°	158.0	163.8	163.7	156.0	142.5	116.0	92.5	78.7	76.0	74.4	82.9
58°	152.1	157.8	157.6	150.0	136.8	111.6	88.9	76.9	73.6	71.3	79.2
58.5°	146.5	151.9	151.7	144.2	131.4	107.0	85.2	74.7	71.1	68.6	75.4
59°	140.8	146.1	145.9	138.4	126.1	102.6	81.5	72.3	68.6	66.5	71.9
59.5°	135.4	140.7	140.3	132.8	120.8	98.2	77.9	69.8	66.2	64.3	68.5
60°	129.8	135.2	134.7	127.4	115.7	94.0	74.3	67.4	63.8	62.2	65.2
60.5°	124.5	129.8	129.3	122.0	110.6	89.8	70.9	65.0	61.4	59.9	62.1
61°	119.6	124.5	124.1	117.0	105.9	85.8	67.5	62.6	59.2	57.6	59.1
61.5°	114.6	119.6	119.0	111.9	101.2	81.6	64.5	60.2	57.0	55.4	56.0
62°	109.7	114.6	114.3	107.0	96.7	77.6	61.5	57.9	54.8	53.3	53.4
62.5°	104.9	109.8	109.5	102.4	92.4	74.0	58.6	55.7	52.6	51.2	50.7
63°	100.5	105.2	104.8	97.8	88.2	70.2	55.8	53.6	50.5	49.1	48.1
63.5°	96.0	100.7	100.4	93.3	83.9	66.7	53.6	51.5	48.4	47.1	45.7
64°	91.6	96.2	96.0	88.9	79.7	63.3	51.6	49.4	46.3	45.2	43.4
64.5°	87.3	92.2	91.9	84.7	75.5	60.0	49.6	47.4	44.2	43.2	41.2
65°	83.4	88.1	87.8	80.7	71.7	56.9	47.7	45.5	42.2	41.2	39.3
65.5°	79.6	84.1	83.8	76.9	68.1	53.8	45.8	43.6	40.3	39.4	37.4
66°	75.6	80.2	80.0	73.1	64.4	50.8	43.8	41.6	38.4	37.5	35.7





TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	65.2	69.5	69.3	62.7	54.6	42.9	38.5	36.4	33.0	32.2	31.3
68°	61.8	66.2	66.0	59.4	51.6	40.5	36.9	34.7	31.4	30.6	29.9
68.5°	58.7	63.0	62.7	56.3	48.6	38.2	35.2	33.0	29.8	29.0	28.6
69°	55.6	60.0	59.6	53.3	45.9	36.2	33.7	31.5	28.3	27.5	27.2
69.5°	52.6	57.0	56.7	50.4	43.2	34.1	32.2	29.9	26.8	26.0	26.0
70°	49.8	54.0	53.7	47.6	40.7	32.2	30.8	28.5	25.4	24.6	24.7
70.5°	47.1	51.3	51.0	45.0	38.2	30.5	29.4	27.1	24.1	23.2	23.4
71°	44.4	48.6	48.3	42.4	36.1	28.8	28.1	25.8	22.8	22.0	22.3
71.5°	41.9	46.1	45.7	40.0	33.9	27.1	26.7	24.4	21.5	20.7	21.1
72°	39.5	43.5	43.2	37.7	31.8	25.7	25.4	23.2	20.4	19.6	19.9
72.5°	36.9	41.1	40.8	35.7	29.8	24.2	24.2	22.1	19.3	18.5	18.9
73°	34.8	38.7	38.4	33.7	28.0	22.9	23.0	20.9	18.2	17.4	17.8
73.5°	32.7	37.1	36.5	31.7	26.2	21.7	21.9	19.8	17.2	16.5	16.8
74°	30.7	34.9	34.4	29.6	24.6	20.5	20.7	18.8	16.2	15.4	15.7
74.5°	28.6	32.8	32.4	27.6	23.0	19.4	19.7	17.7	15.2	14.5	14.8
75°	26.7	30.8	30.4	25.8	21.4	18.3	18.5	16.7	14.3	13.7	13.9
75.5°	24.8	28.7	28.4	24.1	20.0	17.4	17.6	15.7	13.5	12.7	13.1
76°	23.0	26.8	26.5	22.5	18.6	16.5	16.7	14.8	12.5	11.9	12.2
76.5°	21.3	25.1	24.8	20.9	17.4	15.5	15.7	14.0	11.7	11.1	11.4
77°	19.7	23.4	23.1	19.5	16.2	14.7	14.8	13.1	11.0	10.4	10.7
77.5°	18.1	21.9	21.4	18.1	15.0	13.9	14.0	12.2	10.3	9.6	9.9
78°	16.7	20.3	19.9	16.8	13.9	13.1	13.2	11.4	9.5	8.9	9.2
78.5°	15.2	18.9	18.4	15.4	12.8	12.3	12.3	10.6	8.8	8.3	8.6
79°	13.9	17.5	17.0	14.3	11.9	11.6	11.5	9.8	8.2	7.7	8.0
79.5°	12.5	16.2	15.6	13.2	11.0	10.9	10.8	9.1	7.6	6.9	7.4
80°	11.3	14.9	14.4	12.0	10.3	10.2	10.0	8.5	6.8	6.3	6.6
80.5°	10.2	13.7	13.3	11.1	9.4	9.5	9.3	7.8	6.2	5.7	6.0
81°	9.0	12.5	12.1	10.2	8.8	8.9	8.7	7.0	5.7	5.2	5.5
81.5°	7.9	11.4	11.0	9.2	8.1	8.3	8.0	6.3	5.1	4.7	5.0
82°	6.8	10.4	9.9	8.4	7.5	7.6	7.4	5.7	4.6	4.1	4.5
82.5°	5.9	9.3	9.0	7.7	6.7	6.9	6.6	5.2	4.0	3.6	3.9
83°	5.0	8.4	8.1	6.9	6.1	6.3	6.0	4.6	3.5	3.1	3.5
83.5°	4.0	7.5	7.3	6.2	5.6	5.8	5.4	4.0	3.1	2.7	3.1
84°	3.3	6.5	6.4	5.5	5.0	5.3	4.9	3.5	2.7	2.2	2.7
84.5°	2.6	5.7	5.7	4.9	4.6	4.8	4.4	3.0	2.2	1.9	2.3
85°	1.9	4.9	5.0	4.4	4.0	4.2	3.8	2.6	1.8	1.5	2.0
85.5°	1.1	4.0	4.2	3.7	3.5	3.7	3.3	2.2	1.5	1.2	1.6
86°	0.8	3.5	3.7	3.3	3.1	3.3	2.9	1.9	1.1	1.0	1.2
86.5°	0.6	2.9	3.2	2.8	2.7	2.8	2.5	1.6	0.9	0.8	0.9
87°	0.5	2.3	2.6	2.3	2.3	2.4	2.1	1.2	0.7	0.6	0.6
87.5°	0.3	1.8	2.1	1.9	1.9	2.0	1.7	1.0	0.5	0.4	0.3
88°	0.2	1.2	1.6	1.5	1.6	1.6	1.3	0.7	0.3	0.2	0.1
88.5°	0.1	0.7	1.0	1.0	1.2	1.1	0.9	0.5	0.2	0.1	0.0



TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0



TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	541.3	541.3	541.3	541.3	541.3	541.3
0.5°	540.1	539.8	541.7	543.5	544.9	545.4
1°	538.6	539.7	542.9	545.9	548.0	548.6
1.5°	537.1	539.3	543.9	547.9	550.9	551.9
2°	535.4	539.0	544.9	550.1	553.9	555.1
2.5°	533.8	538.6	545.8	552.2	556.5	558.2
3°	532.1	538.2	546.6	554.1	559.3	561.2
3.5°	530.2	537.7	547.4	555.9	561.8	564.1
4°	528.4	537.1	548.0	557.7	564.4	566.9
4.5°	526.4	536.3	548.7	559.3	566.8	569.7
5°	524.4	535.6	549.2	561.0	569.2	572.4
5.5°	522.5	534.9	549.7	562.4	571.5	574.9
6°	520.3	534.1	550.1	563.9	573.5	577.4
6.5°	518.2	533.1	550.3	565.2	575.6	579.6
7°	516.0	532.1	550.5	566.5	577.5	581.9
7.5°	513.8	531.1	550.7	567.6	579.3	584.1
8°	511.5	529.9	550.7	568.7	581.1	586.1
8.5°	509.1	528.7	550.7	569.6	582.8	588.0
9°	506.7	527.5	550.6	570.4	584.3	589.9
9.5°	504.2	526.1	550.4	571.3	585.8	591.7
10°	501.7	524.7	550.1	571.9	587.1	593.3
10.5°	499.3	523.4	549.8	572.4	588.3	594.9
11°	496.6	521.8	549.3	572.9	589.5	596.3
11.5°	494.0	520.2	548.8	573.2	590.4	597.6
12°	491.2	518.5	548.2	573.5	591.4	598.8
12.5°	488.4	516.8	547.4	573.6	592.2	600.0
13°	485.6	515.0	546.7	573.7	592.8	600.9
13.5°	482.8	513.2	545.8	573.6	593.3	601.8
14°	479.9	511.3	544.8	573.5	593.8	602.5
14.5°	476.9	509.3	543.8	573.2	594.2	603.2
15°	473.9	507.2	542.6	572.9	594.4	603.7
15.5°	470.9	505.1	541.3	572.4	594.5	604.1
16°	467.8	503.0	540.1	571.9	594.5	604.4
16.5°	464.7	500.7	538.7	571.2	594.4	604.6
17°	461.4	498.4	537.2	570.4	594.2	604.7
17.5°	458.2	496.0	535.6	569.5	593.8	604.6
18°	454.9	493.6	534.0	568.6	593.4	604.5
18.5°	451.6	491.1	532.2	567.4	592.8	604.2
19°	448.3	488.5	530.3	566.3	592.2	603.9
19.5°	444.9	485.9	528.5	564.9	591.4	603.4
20°	441.4	483.1	526.4	563.6	590.5	602.8
20.5°	438.0	480.4	524.3	562.0	589.5	602.0
21°	434.4	477.6	522.1	560.5	588.3	601.2

TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	423.7	468.6	515.1	555.1	584.3	598.0
23°	420.0	465.6	512.5	553.0	582.8	596.6
23.5°	416.5	462.5	509.9	550.9	581.1	595.3
24°	412.6	459.3	507.2	548.8	579.2	593.6
24.5°	408.8	456.1	504.4	546.4	577.3	592.0
25°	405.1	452.5	501.5	543.9	575.2	590.1
25.5°	401.4	449.2	498.6	541.3	572.9	588.1
26°	397.5	445.8	495.6	538.7	570.7	586.2
26.5°	393.5	442.5	492.6	535.9	568.3	583.9
27°	389.6	438.8	489.4	533.0	565.8	581.6
27.5°	385.7	435.0	486.1	530.1	563.1	579.1
28°	381.8	431.6	482.7	527.0	560.2	576.5
28.5°	377.7	427.9	479.3	523.8	557.2	573.7
29°	373.7	424.1	475.7	520.5	554.1	570.7
29.5°	369.8	420.4	472.0	517.0	550.6	567.5
30°	365.6	416.5	468.5	513.3	547.1	564.1
30.5°	361.5	412.6	464.5	509.5	543.3	560.6
31°	357.4	408.6	460.8	505.6	539.3	557.0
31.5°	353.3	404.9	456.8	501.3	535.1	553.0
32°	349.1	400.5	452.6	497.0	530.9	549.1
32.5°	345.0	396.5	448.3	492.5	526.4	544.7
33°	340.7	392.2	443.7	487.8	521.8	540.0
33.5°	336.6	388.2	439.3	482.9	517.0	535.0
34°	332.4	383.8	434.3	477.6	511.6	530.2
34.5°	328.2	379.4	429.2	472.2	506.0	524.9
35°	323.9	374.9	424.0	466.7	500.3	519.7
35.5°	319.7	370.2	418.7	461.0	494.5	514.0
36°	315.5	365.2	413.2	455.0	488.4	507.9
36.5°	311.1	360.3	407.5	448.8	482.0	501.6
37°	306.8	355.1	401.4	442.2	475.1	495.0
37.5°	302.3	349.5	395.2	435.3	468.0	488.2
38°	298.0	344.1	388.5	428.3	460.4	481.0
38.5°	293.5	338.5	382.0	420.8	452.6	473.4
39°	288.9	332.7	374.8	413.0	444.4	465.6
39.5°	284.2	326.6	368.0	404.7	435.7	457.2
40°	279.3	320.5	360.5	396.2	426.6	448.3
40.5°	274.1	314.3	353.3	388.0	417.5	439.1
41°	269.1	308.1	345.9	379.3	408.2	429.7
41.5°	263.8	302.0	338.5	370.7	398.8	420.3
42°	258.4	295.5	331.1	362.1	389.1	410.5
42.5°	253.2	289.0	323.5	353.5	379.9	400.9
43°	247.8	282.6	315.8	344.7	370.7	391.4
43.5°	242.4	276.3	308.2	336.0	361.3	381.8



TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	226.2	256.5	285.1	310.2	333.8	353.4
45.5°	220.8	250.2	277.4	301.8	324.9	344.4
46°	215.3	243.6	269.8	293.2	315.9	335.1
46.5°	209.9	237.2	262.3	285.1	307.3	325.6
47°	204.3	230.7	254.9	276.9	298.5	316.8
47.5°	198.7	224.1	247.1	268.9	289.8	307.5
48°	193.3	217.7	239.7	261.0	281.3	298.8
48.5°	187.9	211.2	232.6	253.4	273.1	290.3
49°	182.3	205.1	225.5	245.6	264.8	281.5
49.5°	177.1	198.6	218.4	238.1	256.9	273.2
50°	171.7	192.3	211.2	230.7	248.7	264.7
50.5°	166.3	186.0	204.7	223.4	241.2	256.2
51°	161.0	179.9	197.9	216.3	233.5	248.4
51.5°	156.0	173.6	191.5	209.3	226.0	240.5
52°	150.5	167.8	185.1	202.5	218.7	232.5
52.5°	145.4	162.0	178.8	195.9	211.6	225.2
53°	140.3	156.0	172.6	189.3	204.5	217.5
53.5°	135.3	150.3	166.6	183.0	197.8	210.3
54°	130.2	144.9	160.8	176.5	190.9	203.0
54.5°	125.5	139.4	155.0	170.6	184.5	195.9
55°	120.6	134.1	149.4	164.5	178.2	189.5
55.5°	115.7	129.0	144.0	158.8	172.0	182.6
56°	111.1	123.9	138.5	153.1	166.0	176.4
56.5°	106.5	118.9	133.3	147.6	159.9	169.9
57°	102.0	114.2	128.2	142.1	154.2	163.9
57.5°	97.7	109.4	123.3	136.9	148.6	158.0
58°	93.4	104.8	118.4	131.9	143.2	152.1
58.5°	89.5	100.3	113.5	126.8	137.8	146.5
59°	85.5	96.0	109.2	121.9	132.6	140.8
59.5°	81.4	91.8	104.4	117.2	127.7	135.4
60°	77.5	87.6	100.3	112.6	122.8	129.8
60.5°	73.9	83.7	96.0	108.1	118.2	124.5
61°	70.3	79.8	91.9	103.6	113.3	119.6
61.5°	66.8	76.0	88.0	99.6	108.9	114.6
62°	63.4	72.4	84.1	95.4	104.5	109.7
62.5°	60.2	68.9	80.3	91.4	100.2	104.9
63°	57.1	65.4	76.7	87.4	95.9	100.5
63.5°	54.1	62.1	73.0	83.8	91.8	96.0
64°	51.2	58.9	69.6	80.1	87.8	91.6
64.5°	48.5	55.8	66.4	76.6	84.0	87.3
65°	45.9	52.9	63.2	73.0	80.2	83.4
65.5°	43.3	50.1	60.1	69.8	76.6	79.6
66°	40.9	47.3	57.0	66.6	72.9	75.6



TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	34.4	39.8	48.8	57.6	63.1	65.2
68°	32.4	37.6	46.1	54.7	60.1	61.8
68.5°	30.5	35.5	43.6	52.0	57.1	58.7
69°	28.8	33.6	41.2	49.3	54.3	55.6
69.5°	27.0	31.6	39.0	46.8	51.4	52.6
70°	25.5	29.5	36.9	44.3	48.8	49.8
70.5°	23.9	27.6	34.8	42.0	46.2	47.1
71°	22.6	25.9	32.8	39.7	43.8	44.4
71.5°	21.1	24.2	30.9	37.5	41.3	41.9
72°	19.9	22.6	28.8	35.5	39.1	39.5
72.5°	18.6	21.1	27.0	33.6	36.8	36.9
73°	17.5	19.7	25.3	31.6	34.8	34.8
73.5°	16.4	18.4	23.7	29.6	32.8	32.7
74°	15.3	17.1	22.2	27.7	30.8	30.7
74.5°	14.3	15.9	20.7	25.9	28.8	28.6
75°	13.4	14.7	19.2	24.2	27.0	26.7
75.5°	12.5	13.6	17.8	22.6	25.3	24.8
76°	11.7	12.5	16.5	21.0	23.5	23.0
76.5°	11.0	11.5	15.2	19.5	21.9	21.3
77°	10.3	10.7	14.1	18.0	20.4	19.7
77.5°	9.5	9.8	13.0	16.7	19.0	18.1
78°	8.9	9.0	11.9	15.4	17.5	16.7
78.5°	8.3	8.3	10.9	14.2	16.2	15.2
79°	7.8	7.6	9.9	13.0	14.8	13.9
79.5°	7.1	6.8	9.1	11.8	13.6	12.5
80°	6.5	6.2	8.2	10.8	12.4	11.3
80.5°	6.0	5.7	7.5	9.7	11.3	10.2
81°	5.5	5.1	6.6	8.8	10.2	9.0
81.5°	5.0	4.6	6.0	7.9	9.1	7.9
82°	4.5	4.0	5.3	6.9	8.2	6.8
82.5°	4.0	3.6	4.7	6.2	7.3	5.9
83°	3.5	3.2	4.0	5.4	6.4	5.0
83.5°	3.1	2.7	3.5	4.7	5.6	4.0
84°	2.7	2.3	3.0	4.0	4.9	3.3
84.5°	2.3	1.9	2.5	3.4	4.1	2.6
85°	1.9	1.6	2.0	2.9	3.6	1.9
85.5°	1.5	1.1	1.6	2.3	3.0	1.1
86°	1.1	0.8	1.1	1.7	2.4	0.8
86.5°	0.8	0.5	0.7	1.1	1.9	0.6
87°	0.4	0.2	0.3	0.7	1.2	0.5
87.5°	0.2	0.1	0.1	0.3	0.7	0.3
88°	0.0	0.0	0.0	0.0	0.3	0.2
88.5°	0.0	0.0	0.0	0.0	0.0	0.1



TEST NUMBER: P775777

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - 135°-315°

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21.5°	600.3	595.0	572.2	534.1	484.5	432.7	388.8	360.8	351.6	361.5	389.5
22°	599.2	593.8	570.7	532.1	482.0	429.2	384.6	356.2	346.9	357.0	385.3



44°	372.3	381.9	374.8	348.2	305.4	249.7	201.8	174.7	165.8	174.0	199.4
44.5°	363.0	372.5	366.7	341.2	299.6	245.0	198.0	170.9	162.0	170.3	195.1



66.5°	71.9	76.6	76.4	69.4	61.0	48.1	42.0	39.8	36.5	35.6	34.2
67°	68.5	73.0	72.6	66.0	57.8	45.4	40.2	38.1	34.7	34.0	32.7



89°	0.0	0.3	0.6	0.6	0.8	0.8	0.6	0.3	0.0	0.0	0.0
89.5°	0.0	0.1	0.2	0.3	0.5	0.5	0.3	0.1	0.0	0.0	0.0



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21.5°	431.0	474.5	519.9	558.7	587.2	600.3
22°	427.3	471.8	517.5	557.0	585.8	599.2



44°	236.9	269.8	300.5	327.3	351.9	372.3
44.5°	231.5	263.1	292.9	318.7	342.9	363.0

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66.5°	38.5	44.8	54.2	63.5	69.6	71.9
67°	36.4	42.2	51.4	60.4	66.3	68.5

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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(END OF REPORT)