

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: P775778

Luminaire Tested: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775778
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-4000K
Description: 6 INCH ROUND MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

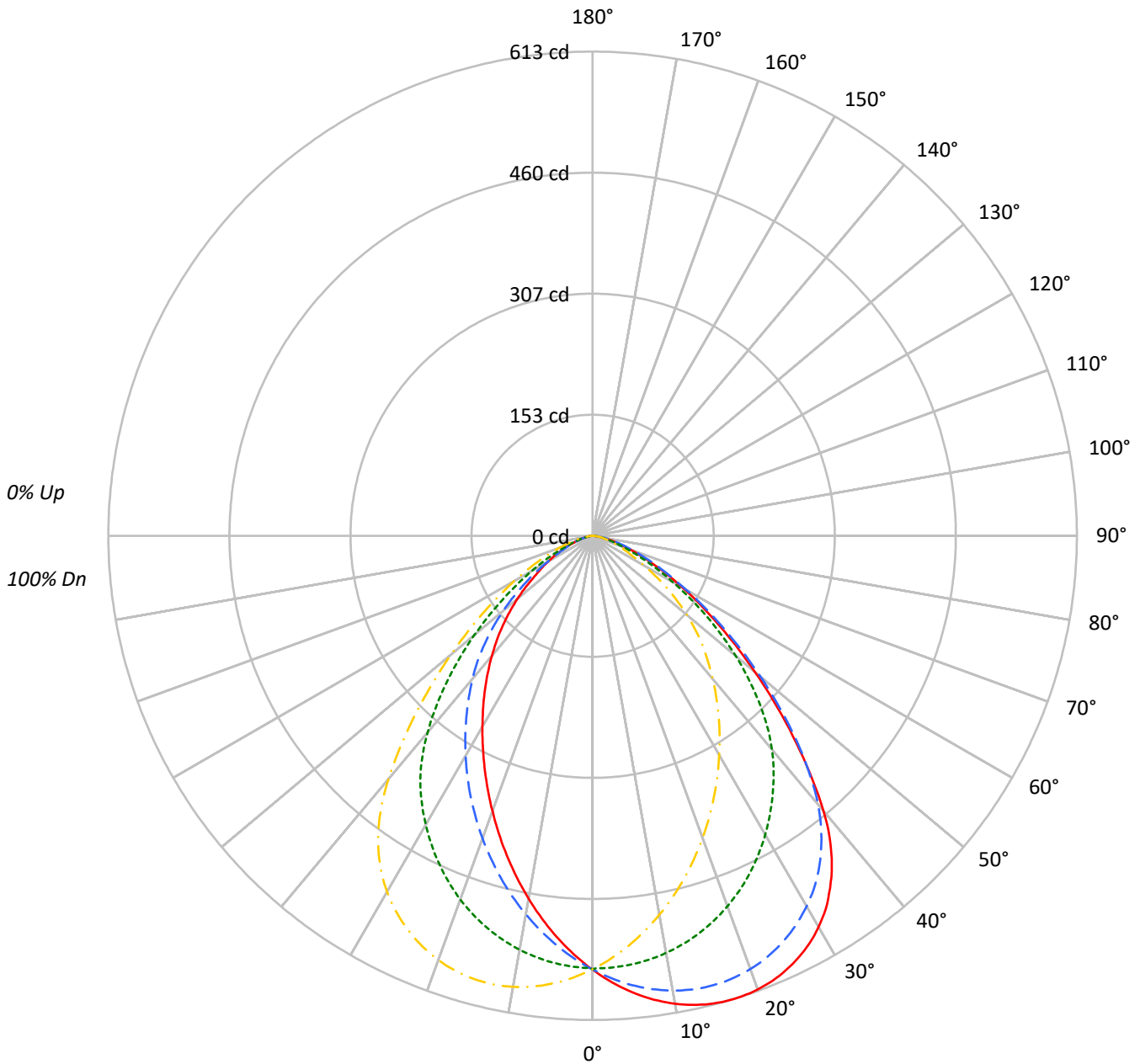
Lumens per Lamp: N/A
Luminaire Lumens: 1079.1 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.23
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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



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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									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°	30091	30091	30091	30091
5°	31939	30002	28115	29887
10°	33489	29854	25968	29620
15°	34739	29563	23786	29189
20°	35656	29123	21632	28580
25°	36196	28490	19574	27758
30°	36208	27650	17661	26732
35°	35262	26609	15888	25444
40°	32532	25276	14184	23258
45°	27778	23095	12459	20165
50°	22891	20153	10609	16631
55°	18360	16611	8592	12989
60°	14429	12861	7094	9747
65°	10974	9430	5552	6966
70°	8094	6620	4119	4792
75°	5740	4596	3071	3156
80°	3631	3283	2178	1989
85°	1195	2579	1132	1006

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 28561 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.7	4.8
10°-20°	145.6	13.5
20°-30°	212.8	19.7
30°-40°	239.1	22.2
40°-50°	206.3	19.1
50°-60°	132.5	12.3
60°-70°	64.3	6.0
70°-80°	23.0	2.1
80°-90°	4.0	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°	410.1	38.0
0°-40°	649.2	60.2
0°-60°	987.9	91.5
0°-90°	1079.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1079.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	549	549	549	549	549	
5°	580	545	511	543	580	56
15°	612	521	419	514	612	173
25°	598	471	324	459	598	275
35°	527	398	237	380	527	327
45°	358	298	161	260	358	276
55°	192	174	90	136	192	174
65°	85	73	43	54	85	86
75°	27	22	14	15	27	30
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°	548.9	548.9	548.9	548.9	548.9	548.9	548.9	548.9	548.9	548.9	548.9
0.5°	553.0	552.6	551.7	550.5	547.5	546.8	546.4	546.2	546.0	546.1	546.7
1°	556.3	555.7	554.2	551.7	547.5	545.5	543.9	542.9	542.3	542.6	544.0
1.5°	559.6	558.9	556.5	553.0	547.5	544.0	541.2	539.4	538.6	539.1	541.3
2°	562.9	561.9	558.8	554.3	547.4	542.5	538.6	536.0	534.9	535.8	538.5
2.5°	566.0	564.8	561.1	555.3	547.2	540.9	535.8	532.4	531.0	532.1	535.7
3°	569.1	567.6	563.1	556.4	546.9	539.3	533.0	528.8	527.1	528.4	532.7
3.5°	572.0	570.3	565.3	557.4	546.6	537.7	530.1	525.1	523.2	524.7	529.9
4°	574.8	573.2	567.2	558.3	546.2	535.9	527.2	521.3	519.1	521.0	526.8
4.5°	577.7	575.6	569.2	559.1	545.7	534.0	524.1	517.5	515.0	517.2	523.8
5°	580.4	578.2	571.0	559.8	545.2	532.2	521.1	513.6	510.9	513.2	520.6
5.5°	582.9	580.5	572.7	560.6	544.6	530.1	517.9	509.7	506.7	509.3	517.5
6°	585.5	582.8	574.4	561.2	544.0	528.1	514.8	505.6	502.3	505.3	514.2
6.5°	587.8	585.0	576.0	561.7	543.2	526.1	511.4	501.6	498.1	501.2	511.0
7°	590.1	587.1	577.5	562.2	542.4	523.9	508.1	497.5	493.6	497.2	507.6
7.5°	592.3	589.1	578.9	562.6	541.5	521.7	504.8	493.3	489.2	493.1	504.3
8°	594.3	591.1	580.2	562.9	540.6	519.5	501.3	489.2	484.7	488.8	500.8
8.5°	596.3	593.0	581.5	563.2	539.7	517.2	497.7	484.8	480.3	484.6	497.3
9°	598.2	594.7	582.6	563.3	538.6	514.8	494.3	480.6	475.7	480.4	493.9
9.5°	600.0	596.4	583.7	563.5	537.5	512.3	490.7	476.3	471.1	476.0	490.2
10°	601.6	598.0	584.6	563.5	536.3	509.8	487.1	472.0	466.5	471.7	486.7
10.5°	603.2	599.4	585.6	563.4	535.0	507.3	483.5	467.6	462.0	467.4	483.0
11°	604.7	600.7	586.4	563.3	533.8	504.7	479.7	463.1	457.2	463.0	479.4
11.5°	605.9	602.0	587.0	563.1	532.3	501.9	475.9	458.7	452.5	458.6	475.6
12°	607.2	603.0	587.7	562.8	530.9	499.3	472.1	454.1	447.8	454.1	471.9
12.5°	608.4	604.1	588.2	562.5	529.4	496.5	468.3	449.6	443.1	449.5	468.1
13°	609.3	604.9	588.6	562.0	527.9	493.7	464.4	445.1	438.3	445.1	464.2
13.5°	610.3	605.7	588.9	561.4	526.2	490.9	460.6	440.6	433.6	440.6	460.4
14°	611.0	606.4	589.1	560.9	524.5	488.0	456.6	435.9	428.7	436.1	456.6
14.5°	611.6	607.0	589.1	560.1	522.7	485.0	452.6	431.2	424.0	431.3	452.6
15°	612.1	607.4	589.2	559.3	520.9	482.0	448.6	426.6	419.1	426.8	448.6
15.5°	612.6	607.7	589.1	558.5	519.1	478.9	444.5	422.1	414.3	422.3	444.6
16°	612.9	608.0	588.9	557.6	517.1	475.9	440.5	417.4	409.5	417.7	440.6
16.5°	613.1	608.0	588.7	556.6	515.1	472.6	436.3	412.6	404.7	413.1	436.6
17°	613.2	608.0	588.3	555.4	513.0	469.5	432.3	408.0	399.8	408.4	432.5
17.5°	613.1	608.0	587.8	554.2	510.9	466.2	428.1	403.3	394.9	403.7	428.4
18°	613.0	607.8	587.2	553.0	508.7	463.0	423.9	398.6	390.2	399.2	424.3
18.5°	612.7	607.5	586.4	551.5	506.4	459.6	419.7	393.9	385.3	394.5	420.1
19°	612.4	607.1	585.7	550.2	503.9	456.2	415.5	389.2	380.5	389.7	416.0
19.5°	611.8	606.6	584.7	548.6	501.6	452.9	411.4	384.5	375.7	385.2	411.9
20°	611.2	605.9	583.8	546.9	499.2	449.4	407.2	379.9	370.8	380.6	407.7
20.5°	610.5	605.1	582.6	545.2	496.6	445.9	402.8	375.2	366.2	375.9	403.5
21°	609.6	604.3	581.5	543.4	494.0	442.4	398.5	370.5	361.3	371.3	399.2



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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°	606.4	601.0	577.3	537.5	485.9	431.6	385.8	356.7	347.1	357.4	386.5
23°	605.0	599.6	575.6	535.3	483.0	427.9	381.3	351.9	342.3	352.8	382.2
23.5°	603.6	598.2	573.9	533.1	480.1	424.2	377.0	347.4	337.6	348.1	377.9
24°	602.0	596.6	572.0	530.7	477.1	420.4	372.7	342.7	332.9	343.5	373.7
24.5°	600.3	594.9	570.1	528.4	474.1	416.7	368.3	338.2	328.2	338.9	369.4
25°	598.4	593.1	568.0	525.9	471.0	413.0	363.9	333.4	323.6	334.4	365.1
25.5°	596.4	591.1	565.9	523.4	467.9	409.1	359.7	329.0	319.0	329.9	360.8
26°	594.4	589.1	563.7	520.6	464.6	405.2	355.4	324.4	314.5	325.3	356.3
26.5°	592.1	586.9	561.3	518.0	461.4	401.3	351.0	319.9	309.9	320.7	352.0
27°	589.8	584.6	558.8	515.1	458.1	397.4	346.6	315.4	305.4	316.3	347.7
27.5°	587.2	582.2	556.3	512.2	454.7	393.4	342.3	311.1	300.9	311.8	343.4
28°	584.6	579.6	553.5	509.2	451.2	389.4	338.0	306.5	296.5	307.4	339.1
28.5°	581.8	577.0	550.7	506.1	447.7	385.4	333.6	302.1	292.0	303.0	334.8
29°	578.7	574.1	547.7	502.9	444.2	381.4	329.2	297.6	287.7	298.6	330.4
29.5°	575.5	571.1	544.8	499.7	440.6	377.3	324.9	293.4	283.3	294.0	326.1
30°	572.0	567.9	541.7	496.5	436.8	373.4	320.5	289.0	279.0	289.7	321.7
30.5°	568.4	564.6	538.4	492.9	433.1	369.3	316.3	284.7	274.7	285.3	317.4
31°	564.8	561.0	535.0	489.4	429.5	365.1	312.0	280.5	270.5	281.0	313.1
31.5°	560.8	557.2	531.6	485.9	425.5	361.0	307.7	276.2	266.2	276.7	308.6
32°	556.8	553.2	527.9	482.2	421.7	356.9	303.4	272.0	262.1	272.4	304.4
32.5°	552.4	549.0	524.0	478.4	417.8	352.7	299.1	267.8	257.9	268.2	300.1
33°	547.5	544.7	520.0	474.6	413.8	348.4	294.8	263.7	253.8	264.0	295.6
33.5°	542.5	540.2	515.8	470.7	409.9	344.2	290.6	259.6	249.7	259.7	291.3
34°	537.7	535.6	511.4	466.6	405.8	340.0	286.3	255.4	245.6	255.7	287.1
34.5°	532.3	530.5	506.8	462.4	401.7	335.7	282.1	251.3	241.4	251.5	282.8
35°	526.9	525.4	502.0	458.2	397.6	331.5	277.9	247.2	237.4	247.3	278.5
35.5°	521.2	520.1	497.1	453.8	393.5	327.2	273.7	243.2	233.4	243.3	274.2
36°	515.0	514.4	492.1	449.3	389.3	323.0	269.6	239.2	229.5	239.2	270.0
36.5°	508.7	508.7	486.8	444.5	384.9	318.7	265.4	235.1	225.4	235.1	265.7
37°	501.9	502.6	481.4	439.6	380.7	314.5	261.2	231.1	221.6	231.0	261.5
37.5°	495.0	496.2	475.7	434.5	376.3	310.1	257.1	227.2	217.6	227.0	257.2
38°	487.8	489.7	469.8	429.4	371.8	305.8	252.9	223.2	213.7	223.0	253.0
38.5°	480.0	482.8	463.7	424.0	367.3	301.6	248.8	219.4	209.9	219.0	248.8
39°	472.1	475.7	457.4	418.4	362.7	297.2	244.8	215.4	206.0	215.0	244.7
39.5°	463.6	467.9	450.9	412.6	358.0	293.0	240.7	211.6	202.1	211.1	240.6
40°	454.6	459.8	444.0	406.7	353.2	288.6	236.5	207.7	198.2	207.2	236.4
40.5°	445.2	451.5	436.6	400.6	348.1	284.3	232.5	203.8	194.5	203.3	232.3
41°	435.8	442.9	429.0	394.2	343.1	280.1	228.4	199.9	190.7	199.3	228.3
41.5°	426.2	433.7	421.3	387.6	337.8	275.8	224.4	196.0	186.8	195.5	224.1
42°	416.2	424.5	413.4	380.9	332.6	271.5	220.3	192.2	183.1	191.6	219.9
42.5°	406.6	415.3	405.3	374.2	327.0	267.0	216.4	188.5	179.3	187.8	215.6
43°	396.9	405.9	397.0	367.3	321.3	262.5	212.4	184.7	175.5	184.1	211.2
43.5°	387.1	396.6	388.5	360.2	315.6	257.9	208.5	180.9	171.9	180.3	206.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	358.3	368.4	363.4	338.7	297.9	243.5	196.9	169.7	160.7	169.0	193.3
45.5°	349.2	359.2	354.7	331.3	291.7	238.5	193.0	166.0	157.1	165.4	188.7
46°	339.8	349.8	346.0	324.1	285.7	233.5	189.0	162.2	153.4	161.6	184.1
46.5°	330.2	340.4	337.4	316.5	279.5	228.5	185.0	158.5	149.6	157.8	179.6
47°	321.3	331.1	328.8	309.1	273.3	223.4	180.8	154.8	146.0	153.9	175.0
47.5°	311.8	322.0	320.0	301.4	267.1	218.3	176.7	151.2	142.3	150.1	170.3
48°	303.0	313.0	311.4	293.9	261.1	213.3	172.6	147.6	138.8	146.2	165.7
48.5°	294.4	304.1	302.8	286.3	254.8	208.2	168.4	143.8	135.1	142.3	161.2
49°	285.4	295.3	294.1	278.8	248.6	203.1	164.2	140.1	131.4	138.5	156.5
49.5°	277.0	286.5	285.8	271.1	242.3	197.9	160.0	136.6	127.8	134.6	151.9
50°	268.4	277.8	277.1	263.5	236.3	192.8	155.9	133.0	124.4	130.8	147.3
50.5°	259.8	269.3	268.9	255.8	229.9	187.5	151.6	129.2	120.8	126.8	142.9
51°	251.9	260.8	260.7	248.4	223.4	182.3	147.3	125.4	117.1	122.8	138.2
51.5°	243.8	252.7	252.7	241.0	217.2	177.3	143.1	121.9	113.7	119.0	133.9
52°	235.7	244.6	244.7	233.6	211.1	172.2	138.9	118.3	110.2	115.1	129.4
52.5°	228.4	236.6	236.8	226.1	204.6	167.0	134.6	114.5	106.6	111.4	125.0
53°	220.5	228.9	229.0	218.9	198.3	161.9	130.5	110.8	103.2	107.5	120.6
53.5°	213.3	221.2	221.5	211.8	192.1	156.8	126.3	107.3	99.6	103.7	116.3
54°	205.8	213.7	214.0	204.7	186.0	151.8	122.0	103.6	96.2	99.9	112.0
54.5°	198.7	206.4	206.8	197.7	179.9	146.9	117.9	99.9	92.8	96.2	107.8
55°	192.1	199.3	199.5	190.8	173.8	142.0	113.8	96.4	89.9	92.8	103.6
55.5°	185.2	192.4	192.6	184.1	167.7	137.0	109.7	92.9	87.2	89.2	99.6
56°	178.9	185.5	185.7	177.4	161.7	132.1	105.6	89.6	84.4	85.7	95.5
56.5°	172.3	178.9	179.0	170.8	155.9	127.3	101.6	86.4	81.5	82.3	91.7
57°	166.2	172.4	172.5	164.4	150.1	122.5	97.7	83.1	79.5	78.8	87.9
57.5°	160.2	166.1	166.0	158.2	144.4	117.7	93.8	79.8	77.1	75.4	84.0
58°	154.2	160.0	159.8	152.1	138.7	113.1	90.1	77.9	74.6	72.3	80.3
58.5°	148.5	154.0	153.8	146.2	133.2	108.5	86.4	75.7	72.1	69.5	76.5
59°	142.8	148.1	147.9	140.4	127.8	104.0	82.7	73.3	69.5	67.4	72.9
59.5°	137.3	142.7	142.2	134.7	122.5	99.6	79.0	70.8	67.1	65.2	69.4
60°	131.6	137.1	136.6	129.2	117.3	95.3	75.3	68.4	64.7	63.0	66.1
60.5°	126.3	131.6	131.1	123.8	112.2	91.1	71.9	65.9	62.3	60.7	62.9
61°	121.2	126.3	125.9	118.6	107.4	87.0	68.5	63.5	60.0	58.4	59.9
61.5°	116.2	121.2	120.7	113.5	102.6	82.8	65.4	61.0	57.8	56.2	56.8
62°	111.3	116.2	115.9	108.5	98.0	78.7	62.4	58.7	55.6	54.0	54.1
62.5°	106.4	111.4	111.0	103.8	93.7	75.0	59.5	56.5	53.4	51.9	51.4
63°	101.9	106.6	106.3	99.2	89.4	71.2	56.6	54.3	51.2	49.8	48.7
63.5°	97.4	102.1	101.8	94.7	85.1	67.7	54.3	52.2	49.1	47.8	46.3
64°	92.9	97.6	97.4	90.1	80.8	64.2	52.3	50.1	47.0	45.8	44.0
64.5°	88.6	93.5	93.2	85.9	76.6	60.8	50.3	48.1	44.9	43.8	41.8
65°	84.6	89.3	89.0	81.8	72.7	57.7	48.3	46.1	42.8	41.8	39.8
65.5°	80.7	85.3	85.0	77.9	69.0	54.5	46.4	44.2	40.9	39.9	37.9
66°	76.7	81.3	81.1	74.2	65.3	51.5	44.4	42.2	39.0	38.0	36.2



TEST NUMBER: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	66.1	70.5	70.3	63.6	55.4	43.5	39.1	36.9	33.5	32.7	31.7
68°	62.7	67.1	66.9	60.2	52.3	41.1	37.4	35.2	31.8	31.0	30.4
68.5°	59.6	63.9	63.6	57.0	49.3	38.8	35.7	33.5	30.3	29.4	29.0
69°	56.4	60.8	60.4	54.0	46.5	36.7	34.1	31.9	28.7	27.8	27.6
69.5°	53.4	57.8	57.5	51.1	43.8	34.6	32.7	30.4	27.2	26.4	26.4
70°	50.5	54.7	54.4	48.2	41.3	32.7	31.2	28.9	25.7	24.9	25.0
70.5°	47.8	52.0	51.7	45.6	38.8	30.9	29.8	27.5	24.5	23.5	23.7
71°	45.1	49.3	49.0	43.0	36.6	29.2	28.5	26.2	23.1	22.3	22.6
71.5°	42.4	46.7	46.3	40.6	34.4	27.5	27.1	24.8	21.9	21.0	21.4
72°	40.0	44.1	43.8	38.2	32.3	26.1	25.7	23.5	20.7	19.9	20.2
72.5°	37.4	41.7	41.4	36.2	30.3	24.6	24.6	22.4	19.5	18.8	19.1
73°	35.3	39.3	39.0	34.1	28.4	23.2	23.3	21.2	18.5	17.6	18.1
73.5°	33.2	37.6	37.0	32.1	26.6	22.0	22.2	20.1	17.4	16.7	17.0
74°	31.1	35.4	34.9	30.0	24.9	20.8	21.0	19.0	16.4	15.7	16.0
74.5°	29.0	33.3	32.9	27.9	23.3	19.6	20.0	18.0	15.4	14.7	15.0
75°	27.1	31.2	30.8	26.2	21.7	18.6	18.8	16.9	14.5	13.9	14.1
75.5°	25.1	29.1	28.8	24.5	20.3	17.6	17.9	16.0	13.7	12.9	13.2
76°	23.3	27.2	26.9	22.8	18.9	16.7	16.9	15.0	12.7	12.1	12.4
76.5°	21.6	25.4	25.1	21.2	17.6	15.8	16.0	14.2	11.9	11.2	11.6
77°	20.0	23.7	23.4	19.7	16.4	14.9	15.0	13.2	11.1	10.5	10.8
77.5°	18.4	22.2	21.7	18.4	15.2	14.1	14.2	12.4	10.4	9.8	10.1
78°	16.9	20.6	20.2	17.0	14.1	13.2	13.3	11.6	9.7	9.0	9.3
78.5°	15.4	19.1	18.7	15.7	13.0	12.5	12.5	10.7	8.9	8.4	8.7
79°	14.1	17.8	17.2	14.5	12.1	11.8	11.7	10.0	8.3	7.8	8.1
79.5°	12.7	16.4	15.9	13.3	11.1	11.0	10.9	9.2	7.7	7.0	7.5
80°	11.5	15.1	14.6	12.2	10.4	10.3	10.2	8.6	6.9	6.4	6.7
80.5°	10.3	13.9	13.4	11.2	9.6	9.7	9.5	7.9	6.3	5.8	6.1
81°	9.1	12.7	12.3	10.3	8.9	9.0	8.8	7.1	5.8	5.3	5.6
81.5°	8.0	11.6	11.1	9.3	8.2	8.4	8.1	6.4	5.1	4.7	5.0
82°	6.9	10.5	10.1	8.5	7.6	7.7	7.5	5.8	4.6	4.2	4.5
82.5°	6.0	9.5	9.1	7.8	6.8	7.0	6.7	5.3	4.1	3.7	4.0
83°	5.0	8.5	8.2	7.0	6.2	6.4	6.1	4.6	3.6	3.2	3.6
83.5°	4.1	7.6	7.4	6.3	5.7	5.9	5.5	4.1	3.2	2.7	3.2
84°	3.4	6.6	6.5	5.6	5.0	5.4	4.9	3.6	2.7	2.2	2.7
84.5°	2.6	5.8	5.8	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	4.1	4.3	3.9	2.6	1.8	1.5	2.0
85.5°	1.2	4.1	4.3	3.8	3.6	3.8	3.4	2.2	1.5	1.3	1.6
86°	0.8	3.6	3.8	3.4	3.2	3.4	2.9	1.9	1.2	1.1	1.3
86.5°	0.6	2.9	3.3	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	1.3	0.7	0.6	0.6
87.5°	0.3	1.8	2.1	1.9	1.9	2.0	1.7	1.1	0.5	0.4	0.3
88°	0.2	1.3	1.6	1.5	1.6	1.6	1.4	0.7	0.3	0.2	0.1
88.5°	0.1	0.7	1.1	1.1	1.3	1.2	0.9	0.5	0.2	0.1	0.0



TEST NUMBER: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

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: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	548.9	548.9	548.9	548.9	548.9	548.9
0.5°	547.6	547.3	549.3	551.1	552.6	553.0
1°	546.2	547.2	550.5	553.5	555.7	556.3
1.5°	544.6	546.9	551.5	555.6	558.7	559.6
2°	542.9	546.6	552.6	557.8	561.6	562.9
2.5°	541.2	546.2	553.4	559.9	564.3	566.0
3°	539.6	545.7	554.3	561.8	567.2	569.1
3.5°	537.7	545.2	555.1	563.7	569.7	572.0
4°	535.8	544.6	555.7	565.5	572.3	574.8
4.5°	533.8	543.9	556.4	567.2	574.7	577.7
5°	531.8	543.1	556.9	568.9	577.2	580.4
5.5°	529.8	542.4	557.4	570.3	579.5	582.9
6°	527.6	541.5	557.8	571.8	581.6	585.5
6.5°	525.5	540.6	558.0	573.2	583.7	587.8
7°	523.3	539.6	558.3	574.4	585.6	590.1
7.5°	521.0	538.5	558.5	575.6	587.5	592.3
8°	518.6	537.3	558.5	576.6	589.2	594.3
8.5°	516.2	536.1	558.5	577.6	590.9	596.3
9°	513.8	534.9	558.4	578.4	592.5	598.2
9.5°	511.3	533.5	558.1	579.3	594.0	600.0
10°	508.8	532.1	557.8	579.9	595.3	601.6
10.5°	506.2	530.7	557.5	580.4	596.6	603.2
11°	503.5	529.2	557.0	580.9	597.8	604.7
11.5°	500.9	527.5	556.5	581.3	598.7	605.9
12°	498.1	525.8	555.8	581.6	599.6	607.2
12.5°	495.2	524.0	555.1	581.7	600.5	608.4
13°	492.4	522.2	554.4	581.8	601.1	609.3
13.5°	489.5	520.4	553.4	581.7	601.6	610.3
14°	486.6	518.4	552.5	581.6	602.2	611.0
14.5°	483.6	516.4	551.4	581.3	602.5	611.6
15°	480.5	514.3	550.2	580.9	602.7	612.1
15.5°	477.5	512.1	548.9	580.4	602.8	612.6
16°	474.3	510.0	547.6	579.9	602.8	612.9
16.5°	471.2	507.7	546.3	579.2	602.7	613.1
17°	467.9	505.4	544.7	578.4	602.5	613.2
17.5°	464.6	503.0	543.1	577.5	602.2	613.1
18°	461.3	500.5	541.4	576.5	601.7	613.0
18.5°	457.9	498.0	539.7	575.4	601.1	612.7
19°	454.6	495.3	537.8	574.2	600.5	612.4
19.5°	451.1	492.7	535.9	572.9	599.6	611.8
20°	447.6	489.9	533.8	571.5	598.8	611.2
20.5°	444.2	487.1	531.7	569.9	597.8	610.5
21°	440.5	484.3	529.5	568.3	596.6	609.6

TEST NUMBER: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	429.7	475.2	522.3	562.9	592.5	606.4
23°	425.9	472.1	519.7	560.8	590.9	605.0
23.5°	422.3	469.0	517.1	558.7	589.2	603.6
24°	418.4	465.7	514.3	556.5	587.4	602.0
24.5°	414.5	462.4	511.5	554.0	585.4	600.3
25°	410.8	458.9	508.6	551.5	583.3	598.4
25.5°	407.0	455.5	505.6	548.9	580.9	596.4
26°	403.1	452.0	502.6	546.3	578.7	594.4
26.5°	399.0	448.7	499.5	543.4	576.2	592.1
27°	395.1	444.9	496.3	540.5	573.7	589.8
27.5°	391.1	441.1	492.9	537.6	571.0	587.2
28°	387.1	437.7	489.4	534.4	568.0	584.6
28.5°	383.0	433.9	486.0	531.1	565.0	581.8
29°	378.9	430.1	482.4	527.8	561.8	578.7
29.5°	374.9	426.3	478.6	524.2	558.4	575.5
30°	370.7	422.3	475.0	520.5	554.8	572.0
30.5°	366.5	418.4	471.1	516.6	550.9	568.4
31°	362.4	414.3	467.3	512.7	546.9	564.8
31.5°	358.2	410.5	463.2	508.4	542.6	560.8
32°	354.0	406.1	459.0	503.9	538.3	556.8
32.5°	349.8	402.0	454.6	499.4	533.8	552.4
33°	345.5	397.7	449.9	494.6	529.2	547.5
33.5°	341.3	393.6	445.4	489.7	524.2	542.5
34°	337.0	389.2	440.4	484.3	518.8	537.7
34.5°	332.8	384.7	435.2	478.8	513.1	532.3
35°	328.4	380.2	430.0	473.3	507.3	526.9
35.5°	324.2	375.4	424.5	467.5	501.4	521.2
36°	319.9	370.3	419.0	461.4	495.2	515.0
36.5°	315.5	365.4	413.2	455.1	488.7	508.7
37°	311.1	360.1	407.0	448.4	481.8	501.9
37.5°	306.5	354.4	400.8	441.4	474.5	495.0
38°	302.1	348.9	393.9	434.3	466.9	487.8
38.5°	297.6	343.2	387.3	426.7	459.0	480.0
39°	293.0	337.3	380.1	418.7	450.7	472.1
39.5°	288.2	331.1	373.1	410.3	441.9	463.6
40°	283.2	325.0	365.6	401.7	432.6	454.6
40.5°	278.0	318.7	358.2	393.4	423.4	445.2
41°	272.8	312.4	350.8	384.6	413.9	435.8
41.5°	267.5	306.2	343.2	375.9	404.3	426.2
42°	262.0	299.6	335.7	367.2	394.6	416.2
42.5°	256.7	293.1	328.1	358.4	385.2	406.6
43°	251.3	286.6	320.2	349.5	375.9	396.9
43.5°	245.8	280.2	312.5	340.7	366.3	387.1



TEST NUMBER: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	229.3	260.1	289.1	314.5	338.5	358.3
45.5°	223.9	253.7	281.3	306.0	329.4	349.2
46°	218.3	247.0	273.6	297.3	320.3	339.8
46.5°	212.8	240.6	266.0	289.1	311.6	330.2
47°	207.2	234.0	258.4	280.8	302.7	321.3
47.5°	201.5	227.2	250.6	272.7	293.8	311.8
48°	196.0	220.7	243.1	264.6	285.2	303.0
48.5°	190.6	214.2	235.8	257.0	276.9	294.4
49°	184.9	208.0	228.7	249.1	268.5	285.4
49.5°	179.5	201.4	221.5	241.4	260.5	277.0
50°	174.1	195.0	214.2	234.0	252.2	268.4
50.5°	168.6	188.6	207.6	226.5	244.6	259.8
51°	163.3	182.4	200.7	219.4	236.8	251.9
51.5°	158.2	176.1	194.1	212.2	229.1	243.8
52°	152.6	170.2	187.7	205.4	221.8	235.7
52.5°	147.4	164.3	181.3	198.7	214.5	228.4
53°	142.2	158.2	175.0	191.9	207.4	220.5
53.5°	137.2	152.4	168.9	185.5	200.5	213.3
54°	132.1	147.0	163.0	179.0	193.6	205.8
54.5°	127.2	141.4	157.2	173.0	187.1	198.7
55°	122.3	135.9	151.5	166.8	180.7	192.1
55.5°	117.3	130.8	146.0	161.0	174.4	185.2
56°	112.6	125.6	140.5	155.3	168.3	178.9
56.5°	108.0	120.6	135.2	149.7	162.1	172.3
57°	103.5	115.8	130.0	144.1	156.3	166.2
57.5°	99.1	110.9	125.0	138.8	150.6	160.2
58°	94.8	106.3	120.1	133.7	145.2	154.2
58.5°	90.8	101.7	115.1	128.6	139.7	148.5
59°	86.7	97.4	110.7	123.6	134.5	142.8
59.5°	82.6	93.1	105.9	118.8	129.5	137.3
60°	78.6	88.9	101.7	114.2	124.5	131.6
60.5°	74.9	84.9	97.4	109.6	119.9	126.3
61°	71.3	80.9	93.2	105.1	114.9	121.2
61.5°	67.8	77.1	89.2	101.0	110.4	116.2
62°	64.3	73.4	85.3	96.8	106.0	111.3
62.5°	61.0	69.9	81.4	92.7	101.6	106.4
63°	57.9	66.3	77.7	88.7	97.3	101.9
63.5°	54.8	62.9	74.1	85.0	93.1	97.4
64°	51.9	59.8	70.6	81.2	89.0	92.9
64.5°	49.2	56.6	67.3	77.6	85.2	88.6
65°	46.5	53.7	64.1	74.1	81.3	84.6
65.5°	43.9	50.8	60.9	70.8	77.6	80.7
66°	41.5	48.0	57.8	67.5	74.0	76.7



TEST NUMBER: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	34.9	40.3	49.5	58.4	64.0	66.1
68°	32.9	38.1	46.7	55.5	60.9	62.7
68.5°	30.9	36.0	44.2	52.7	57.9	59.6
69°	29.2	34.0	41.8	50.0	55.0	56.4
69.5°	27.4	32.0	39.5	47.5	52.1	53.4
70°	25.8	29.9	37.4	45.0	49.5	50.5
70.5°	24.3	27.9	35.3	42.5	46.9	47.8
71°	22.9	26.3	33.3	40.2	44.4	45.1
71.5°	21.4	24.6	31.3	38.0	41.9	42.4
72°	20.2	22.9	29.2	36.0	39.6	40.0
72.5°	18.9	21.4	27.4	34.0	37.3	37.4
73°	17.8	20.0	25.6	32.0	35.3	35.3
73.5°	16.6	18.7	24.1	30.0	33.3	33.2
74°	15.5	17.3	22.5	28.0	31.2	31.1
74.5°	14.5	16.1	21.0	26.3	29.2	29.0
75°	13.6	14.9	19.4	24.6	27.4	27.1
75.5°	12.7	13.8	18.1	22.9	25.6	25.1
76°	11.9	12.7	16.7	21.3	23.8	23.3
76.5°	11.1	11.7	15.4	19.7	22.2	21.6
77°	10.4	10.8	14.3	18.3	20.7	20.0
77.5°	9.7	10.0	13.1	16.9	19.2	18.4
78°	9.0	9.1	12.1	15.7	17.8	16.9
78.5°	8.4	8.4	11.0	14.4	16.4	15.4
79°	7.9	7.7	10.1	13.1	15.0	14.1
79.5°	7.2	6.9	9.2	12.0	13.8	12.7
80°	6.6	6.3	8.3	10.9	12.6	11.5
80.5°	6.1	5.8	7.6	9.9	11.5	10.3
81°	5.6	5.1	6.7	8.9	10.3	9.1
81.5°	5.0	4.6	6.1	8.0	9.2	8.0
82°	4.5	4.1	5.4	7.0	8.3	6.9
82.5°	4.1	3.7	4.7	6.3	7.4	6.0
83°	3.6	3.3	4.1	5.5	6.5	5.0
83.5°	3.2	2.7	3.6	4.7	5.7	4.1
84°	2.7	2.3	3.0	4.1	4.9	3.4
84.5°	2.3	1.9	2.5	3.5	4.2	2.6
85°	1.9	1.6	2.0	2.9	3.7	1.9
85.5°	1.5	1.2	1.6	2.3	3.0	1.2
86°	1.2	0.8	1.2	1.7	2.4	0.8
86.5°	0.8	0.5	0.7	1.2	1.9	0.6
87°	0.4	0.2	0.3	0.7	1.3	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: P775778

CATALOG NUMBER: HCDJBL510CSD-HCD6TRH-HCD6TRLWW-1000lm-4000K

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°	608.7	603.3	580.2	541.5	491.3	438.8	394.3	365.9	356.5	366.5	395.0
22°	607.6	602.2	578.7	539.6	488.7	435.2	390.0	361.2	351.7	362.0	390.7



44°	377.6	387.2	380.1	353.1	309.7	253.2	204.6	177.1	168.1	176.5	202.2
44.5°	368.1	377.8	371.9	345.9	303.8	248.4	200.8	173.3	164.3	172.7	197.8



66.5°	72.9	77.6	77.4	70.4	61.9	48.7	42.5	40.3	37.0	36.1	34.7
67°	69.4	74.1	73.6	66.9	58.6	46.0	40.8	38.7	35.2	34.5	33.2



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°	437.0	481.1	527.2	566.5	595.4	608.7
22°	433.2	478.4	524.7	564.8	594.0	607.6



44°	240.3	273.6	304.8	331.9	356.9	377.6
44.5°	234.8	266.8	297.0	323.1	347.7	368.1



66.5°	39.1	45.4	54.9	64.4	70.6	72.9
67°	36.9	42.8	52.1	61.2	67.2	69.4

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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)