

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: P775812

Luminaire Tested: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775812
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K
Description: 6 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

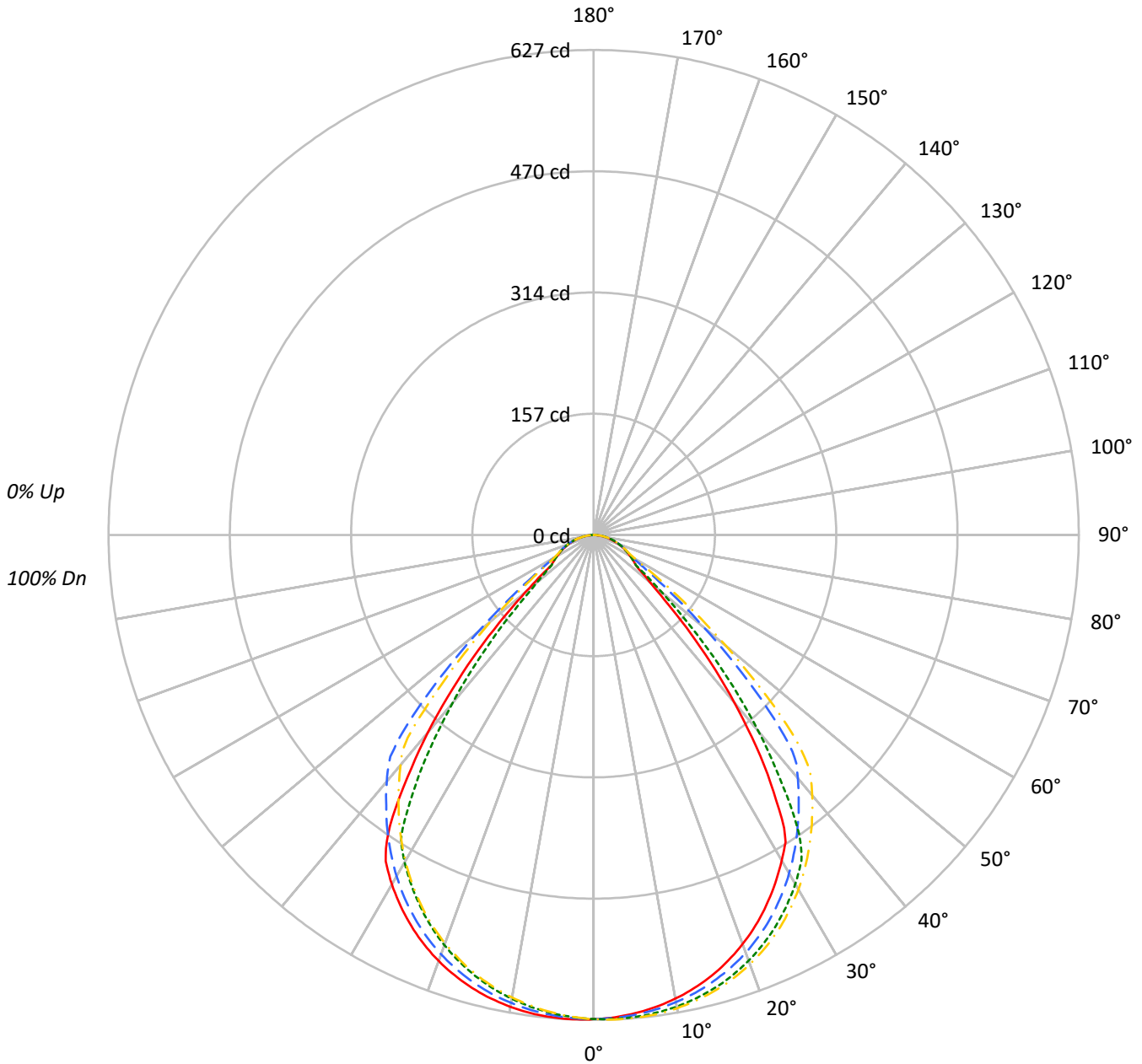
Lumens per Lamp: N/A
Luminaire Lumens: 1098.4 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.27
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): 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: P775812
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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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				100				
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89				89				
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79				79				
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70				70				
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63				63				
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	57				57				
6	78	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51				51				
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46				46				
8	69	57	50	45	67	57	49	45	55	49	44	54	48	44	53	48	44	42				42				
9	65	53	46	41	63	52	46	41	51	45	41	50	45	40	49	44	40	39				39				
10	61	49	42	38	60	49	42	38	48	42	37	47	41	37	46	41	37	36				36				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	26953	26953	26953	26953
5°	26822	27034	27051	26827
10°	26612	27067	27084	26621
15°	26290	27017	27030	26317
20°	25796	26836	26850	25856
25°	25093	26480	26504	25183
30°	24172	25912	25932	24296
35°	21314	24036	24110	21392
40°	15884	18626	18739	15934
45°	10339	12763	12848	10394
50°	6370	7603	7690	6410
55°	4917	4932	4932	4917
60°	4719	4702	4702	4719
65°	4493	4534	4493	4554
70°	4268	4393	4293	4419
75°	3943	4259	4042	4242
80°	3397	4091	3670	3918
85°	1877	3705	2766	3162

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 22060 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.2	5.4
10°-20°	168.7	15.4
20°-30°	250.5	22.8
30°-40°	276.9	25.2
40°-50°	187.7	17.1
50°-60°	76.5	7.0
60°-70°	45.1	4.1
70°-80°	26.7	2.4
80°-90°	7.0	0.6
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°	478.4	43.6
0°-40°	755.3	68.8
0°-60°	1019.5	92.8
0°-90°	1098.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1098.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	626	626	626	626	626	
5°	621	626	626	621	621	59
15°	590	606	606	590	590	166
25°	528	557	558	530	528	243
35°	406	457	459	407	406	248
45°	170	210	211	171	170	134
55°	66	66	66	66	66	61
65°	44	44	44	45	44	44
75°	24	26	24	26	24	25
85°	4	8	6	6	4	5
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°	626.0	626.0	626.0	626.0	626.0	626.0	626.0	626.0	626.0	626.0	626.0
0.5°	626.0	625.8	625.8	626.0	626.1	626.2	626.4	626.5	626.5	626.1	625.8
1°	625.6	625.6	625.6	626.0	626.3	626.4	626.7	626.7	626.6	626.1	625.8
1.5°	625.2	625.3	625.5	625.9	626.4	626.6	626.9	626.9	626.7	626.2	625.6
2°	624.8	625.0	625.3	625.8	626.4	626.6	627.1	627.1	626.8	626.1	625.5
2.5°	624.3	624.5	625.0	625.7	626.4	626.7	627.2	627.2	626.8	626.0	625.2
3°	623.6	623.9	624.6	625.5	626.3	626.7	627.2	627.2	626.7	625.9	624.9
3.5°	623.0	623.4	624.2	625.2	626.2	626.6	627.2	627.1	626.6	625.7	624.6
4°	622.3	622.8	623.7	624.9	626.0	626.5	627.1	626.9	626.4	625.4	624.2
4.5°	621.5	622.2	623.2	624.5	625.8	626.4	626.8	626.8	626.2	625.1	623.7
5°	620.6	621.5	622.6	623.9	625.5	626.2	626.6	626.6	625.9	624.7	623.2
5.5°	619.8	620.7	622.0	623.5	625.1	625.9	626.4	626.3	625.6	624.3	622.6
6°	618.8	619.8	621.3	622.9	624.7	625.6	626.1	626.0	625.2	623.7	622.0
6.5°	617.8	619.0	620.4	622.3	624.3	625.2	625.7	625.6	624.7	623.1	621.3
7°	616.7	617.9	619.6	621.6	623.7	624.8	625.3	625.1	624.2	622.4	620.4
7.5°	615.6	617.0	618.8	620.8	623.0	624.3	624.8	624.6	623.5	621.7	619.6
8°	614.3	615.9	617.8	620.0	622.4	623.6	624.3	623.9	622.8	620.9	618.8
8.5°	613.0	614.7	616.8	619.2	621.7	622.9	623.6	623.3	622.1	620.1	617.7
9°	611.6	613.4	615.7	618.1	620.8	622.3	622.9	622.5	621.3	619.2	616.7
9.5°	610.3	612.1	614.5	617.2	620.0	621.5	622.2	621.8	620.4	618.2	615.6
10°	608.7	610.8	613.4	616.1	619.1	620.6	621.4	620.8	619.5	617.3	614.4
10.5°	607.2	609.3	612.0	614.9	618.1	619.7	620.4	620.0	618.5	616.2	613.2
11°	605.5	607.8	610.8	613.8	617.0	618.8	619.5	619.0	617.4	614.9	611.9
11.5°	603.7	606.2	609.3	612.6	615.9	617.6	618.5	617.9	616.3	613.7	610.6
12°	602.0	604.6	607.9	611.2	614.7	616.6	617.4	616.8	615.1	612.4	609.1
12.5°	600.1	602.9	606.3	609.9	613.5	615.3	616.2	615.7	613.8	611.1	607.7
13°	598.3	601.2	604.7	608.3	612.1	614.1	614.9	614.3	612.6	609.7	606.1
13.5°	596.3	599.3	603.0	606.8	610.7	612.9	613.7	613.0	611.1	608.2	604.5
14°	594.2	597.3	601.4	605.2	609.2	611.4	612.3	611.6	609.7	606.5	602.8
14.5°	592.0	595.4	599.5	603.5	607.7	610.0	610.9	610.2	608.1	605.0	601.0
15°	589.8	593.3	597.6	601.8	606.1	608.5	609.4	608.6	606.4	603.2	599.2
15.5°	587.5	591.1	595.6	599.9	604.5	606.9	607.9	607.0	604.8	601.5	597.3
16°	585.1	588.8	593.6	598.1	602.7	605.1	606.2	605.3	602.9	599.6	595.3
16.5°	582.6	586.6	591.5	596.2	600.8	603.4	604.6	603.6	601.2	597.7	593.3
17°	580.0	584.2	589.5	594.1	598.9	601.6	602.8	601.8	599.2	595.7	591.1
17.5°	577.4	581.7	587.2	591.9	597.0	599.7	601.0	599.8	597.2	593.6	588.9
18°	574.6	579.1	584.8	589.8	594.8	597.7	599.1	597.8	595.2	591.4	586.7
18.5°	571.9	576.5	582.3	587.5	592.8	595.8	597.0	595.8	593.0	589.2	584.4
19°	569.0	573.8	579.9	585.2	590.5	593.6	594.9	593.6	590.7	586.9	581.8
19.5°	566.0	571.0	577.3	582.7	588.1	591.4	592.9	591.4	588.4	584.6	579.4
20°	563.0	568.2	574.7	580.2	585.7	589.0	590.6	589.1	586.0	582.1	576.9
20.5°	559.9	565.1	572.1	577.5	583.3	586.7	588.3	586.8	583.6	579.6	574.2
21°	556.7	562.1	569.3	574.9	580.7	584.2	585.9	584.3	581.1	576.9	571.5



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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°	546.6	552.5	560.3	566.5	572.6	576.4	578.3	576.5	573.0	568.8	562.9
23°	543.1	549.2	557.2	563.5	569.7	573.6	575.6	573.8	570.1	565.7	559.8
23.5°	539.5	545.7	554.0	560.3	566.8	570.8	572.9	571.0	567.2	562.7	556.7
24°	535.9	542.3	550.8	557.2	563.7	567.9	570.0	568.1	564.1	559.7	553.5
24.5°	532.1	538.7	547.4	554.0	560.6	564.9	567.0	565.1	561.0	556.6	550.3
25°	528.2	535.1	544.0	550.7	557.4	561.8	564.0	562.0	557.9	553.4	546.9
25.5°	524.3	531.2	540.5	547.3	554.1	558.7	561.0	558.9	554.5	550.1	543.6
26°	520.4	527.5	536.8	543.9	550.7	555.4	557.8	555.6	551.2	546.7	540.2
26.5°	516.3	523.7	533.1	540.4	547.3	552.1	554.4	552.3	547.7	543.3	536.5
27°	512.2	519.7	529.4	536.8	543.8	548.6	551.0	548.9	544.3	539.7	532.8
27.5°	507.9	515.5	525.5	533.2	540.3	545.2	547.7	545.4	540.8	536.2	529.3
28°	503.7	511.5	521.6	529.5	536.4	541.6	544.1	541.8	537.0	532.4	525.3
28.5°	499.4	507.3	517.6	525.5	532.8	538.0	540.5	538.3	533.2	528.8	521.5
29°	495.1	503.2	513.7	521.7	529.0	534.2	536.7	534.5	529.5	524.8	517.5
29.5°	490.6	498.8	509.5	517.8	525.1	530.5	533.1	530.7	525.7	521.2	513.4
30°	486.2	494.7	505.2	513.7	521.2	526.6	529.2	526.9	521.6	517.0	509.4
30.5°	481.6	490.2	501.0	509.7	517.1	522.8	525.2	523.1	517.5	513.0	505.2
31°	477.1	485.8	496.6	505.6	512.8	518.8	521.3	518.9	513.3	508.8	501.0
31.5°	472.5	481.2	492.2	501.3	508.7	514.8	517.3	514.9	509.2	504.6	496.6
32°	468.1	476.7	487.7	497.1	504.1	510.5	513.0	510.8	504.7	500.5	492.3
32.5°	460.1	472.0	483.2	492.7	499.8	506.4	509.0	506.6	500.3	496.1	487.9
33°	451.8	467.3	478.7	488.3	493.4	502.0	504.6	502.2	493.4	491.7	483.4
33.5°	440.8	462.8	474.0	483.7	486.1	497.7	500.3	497.9	486.4	487.4	478.8
34°	429.0	458.3	469.3	478.9	477.7	493.0	495.7	493.4	478.2	482.7	474.2
34.5°	417.0	450.7	464.5	474.4	468.2	488.5	491.4	488.5	468.9	477.7	469.6
35°	405.5	442.4	459.8	467.6	457.3	483.3	486.9	483.1	458.7	471.4	464.9
35.5°	394.1	432.1	454.9	460.4	445.8	475.4	482.4	475.4	447.2	464.2	460.1
36°	382.6	420.6	450.1	452.4	433.0	468.4	477.7	468.6	434.6	456.7	455.3
36.5°	370.7	409.3	445.2	443.1	420.1	459.3	473.1	459.9	422.0	447.7	450.6
37°	358.0	398.0	440.3	433.0	406.3	449.1	468.5	450.2	408.8	437.7	445.5
37.5°	345.1	386.8	435.3	422.0	393.4	438.1	463.6	439.9	395.6	427.3	440.6
38°	332.2	375.4	430.4	410.0	380.5	426.4	458.8	428.5	382.9	415.5	435.7
38.5°	319.4	364.0	425.5	397.5	368.4	414.1	454.0	416.5	370.5	403.4	430.9
39°	306.9	352.2	420.4	385.3	356.1	401.4	449.3	403.9	358.2	391.0	425.8
39.5°	294.7	339.9	415.5	373.0	344.0	388.2	444.3	391.4	345.9	378.6	420.8
40°	282.6	327.1	410.4	360.6	331.4	375.7	439.6	378.9	333.4	366.2	415.9
40.5°	271.0	314.6	405.3	348.8	318.8	363.6	434.5	366.8	320.8	354.2	410.9
41°	259.0	302.4	400.2	337.2	305.8	351.7	429.5	354.6	307.6	342.5	405.7
41.5°	247.3	290.3	395.5	325.6	292.9	339.8	424.2	342.8	294.8	331.0	400.4
42°	235.4	278.5	388.0	314.3	280.3	327.9	419.0	331.0	282.0	319.4	395.0
42.5°	223.8	267.4	380.1	302.5	268.1	315.9	413.9	319.1	269.6	307.5	388.8
43°	212.1	255.8	369.4	290.3	256.1	303.6	404.7	306.8	257.6	295.5	378.2
43.5°	201.2	244.4	357.5	278.6	244.2	291.3	395.6	294.3	245.8	283.3	368.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	169.8	210.3	318.2	243.7	209.6	255.0	362.3	257.9	211.0	248.1	329.5
45.5°	159.8	199.3	304.9	232.8	198.0	243.5	349.2	246.0	199.8	236.8	315.6
46°	150.3	188.5	290.9	222.0	187.0	232.1	335.0	234.6	188.6	225.8	301.5
46.5°	141.3	178.4	277.0	211.1	176.3	220.6	320.5	223.3	177.8	215.0	287.4
47°	132.5	168.0	263.0	200.4	165.9	209.4	305.7	212.0	167.6	204.3	273.4
47.5°	124.4	158.4	249.0	189.9	156.0	198.5	290.6	200.9	157.6	193.7	259.7
48°	117.0	148.9	235.4	179.5	146.7	187.7	276.3	190.3	148.2	183.5	246.0
48.5°	110.6	139.8	222.7	169.6	137.7	177.1	262.2	179.4	139.1	173.3	232.7
49°	104.9	131.0	210.5	159.9	129.2	166.6	248.9	169.0	130.5	163.7	219.9
49.5°	99.8	123.0	198.5	150.7	121.1	156.7	235.9	159.1	122.4	154.0	207.5
50°	95.1	115.4	186.7	141.4	113.5	147.1	223.3	149.5	114.8	144.9	195.6
50.5°	91.1	108.5	175.9	132.7	106.5	138.0	211.0	140.0	107.5	136.0	184.2
51°	87.3	102.3	165.3	124.5	100.0	129.4	199.0	131.3	101.0	127.8	172.9
51.5°	83.7	97.2	155.2	116.8	94.9	121.1	187.1	123.0	95.7	119.8	162.5
52°	80.0	92.4	145.3	109.5	89.7	113.4	175.9	115.1	90.3	112.5	152.5
52.5°	76.4	88.2	136.2	102.5	84.6	106.1	164.5	107.6	85.0	105.2	142.8
53°	72.9	84.3	127.5	96.1	79.4	99.5	153.7	100.6	79.7	98.5	133.8
53.5°	70.1	80.7	119.3	90.1	74.4	94.3	143.5	95.1	74.4	93.0	125.1
54°	67.9	77.2	111.8	84.7	70.3	88.9	134.3	89.6	70.3	87.5	117.1
54.5°	66.6	73.7	104.6	79.8	67.3	83.5	125.0	84.1	67.2	82.0	109.7
55°	65.5	70.1	98.1	75.1	65.7	78.1	116.6	78.6	65.7	76.5	102.9
55.5°	64.3	67.2	92.0	70.7	64.4	72.8	108.5	73.1	64.3	72.0	96.4
56°	63.2	64.8	86.6	66.8	63.3	68.6	101.3	68.8	63.2	67.9	91.4
56.5°	62.1	63.5	81.5	63.9	62.1	65.0	95.5	65.1	62.0	64.8	86.3
57°	61.1	62.4	77.0	62.4	61.0	62.9	89.6	62.8	61.0	63.1	81.2
57.5°	60.0	61.2	72.8	61.2	60.0	61.5	83.8	61.4	59.9	61.8	76.1
58°	58.9	60.2	69.4	60.1	58.8	60.4	77.9	60.3	58.8	60.7	72.1
58.5°	57.9	59.0	66.3	58.9	57.8	59.3	72.1	59.2	57.7	59.7	68.7
59°	56.9	58.0	63.5	57.9	56.8	58.2	68.0	58.2	56.7	58.5	65.7
59.5°	55.8	57.0	61.1	56.8	55.7	57.2	64.6	57.1	55.6	57.5	63.0
60°	54.8	55.9	59.0	55.7	54.6	56.1	61.7	56.0	54.6	56.4	60.6
60.5°	53.7	54.9	57.1	54.7	53.5	55.0	59.3	55.0	53.5	55.3	58.5
61°	52.6	53.9	55.3	53.5	52.6	54.0	57.1	54.0	52.4	54.3	56.7
61.5°	51.6	52.8	53.8	52.6	51.6	52.9	55.2	52.9	51.4	53.2	54.9
62°	50.5	51.8	52.3	51.6	50.5	52.0	53.4	51.9	50.3	52.2	53.3
62.5°	49.4	50.8	51.0	50.4	49.5	51.0	51.9	50.9	49.3	51.2	52.0
63°	48.4	49.7	49.8	49.4	48.5	49.9	50.5	49.7	48.2	50.0	50.6
63.5°	47.3	48.6	48.7	48.4	47.5	48.9	49.2	48.7	47.2	49.0	49.5
64°	46.3	47.5	47.5	47.3	46.5	47.9	48.2	47.6	46.2	48.0	48.5
64.5°	45.2	46.5	46.5	46.3	45.6	46.8	47.0	46.6	45.2	46.9	47.3
65°	44.1	45.5	45.5	45.4	44.5	45.9	46.0	45.6	44.1	45.9	46.3
65.5°	43.1	44.3	44.3	44.3	43.6	44.8	45.0	44.5	43.1	44.8	45.3
66°	42.1	43.3	43.3	43.3	42.6	43.8	43.8	43.5	42.1	43.8	44.1



TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	38.9	40.2	40.2	40.3	39.7	40.8	40.7	40.4	39.0	40.7	41.0
68°	37.9	39.2	39.2	39.3	38.7	39.9	39.7	39.4	38.0	39.6	40.0
68.5°	36.9	38.1	38.1	38.2	37.8	38.8	38.7	38.4	37.0	38.6	38.9
69°	35.8	37.1	37.1	37.7	36.9	37.9	37.7	37.4	36.0	37.6	37.9
69.5°	34.9	36.0	36.0	36.7	35.9	36.9	36.6	36.4	35.0	36.6	36.9
70°	33.9	35.0	35.0	35.6	34.9	35.9	35.6	35.3	34.1	35.5	35.8
70.5°	32.8	34.0	34.0	34.5	34.0	35.0	34.6	34.4	33.0	34.5	34.8
71°	31.9	33.0	32.9	33.5	33.0	34.0	33.6	33.4	32.1	33.5	33.8
71.5°	30.9	31.9	32.0	32.5	32.1	33.0	32.5	32.3	31.1	32.4	32.7
72°	29.8	31.0	31.0	31.5	31.2	32.0	31.5	31.4	30.1	31.5	31.7
72.5°	28.8	29.8	29.9	30.6	30.2	31.1	30.6	30.3	29.1	30.5	30.7
73°	27.8	28.9	28.9	29.5	29.3	30.1	29.5	29.3	28.2	29.4	29.6
73.5°	26.7	27.9	27.9	28.6	28.4	29.2	28.5	28.4	27.2	28.4	28.6
74°	25.7	26.8	26.8	27.6	27.4	28.2	27.6	27.3	26.2	27.4	27.6
74.5°	24.8	25.8	25.8	26.6	26.5	27.2	26.5	26.4	25.3	26.4	26.6
75°	23.7	24.8	24.9	25.7	25.6	26.3	25.6	25.4	24.3	25.4	25.6
75.5°	22.7	23.7	23.8	24.8	24.7	25.4	24.5	24.4	23.3	24.4	24.5
76°	21.8	22.7	22.8	23.7	23.7	24.4	23.5	23.4	22.4	23.4	23.5
76.5°	20.7	21.6	21.8	22.8	22.8	23.5	22.6	22.4	21.4	22.4	22.6
77°	19.7	20.6	20.7	21.9	22.0	22.6	21.6	21.4	20.5	21.4	21.5
77.5°	18.6	19.6	19.8	20.8	21.0	21.6	20.6	20.4	19.6	20.4	20.5
78°	17.7	18.5	18.7	19.9	20.1	20.6	19.7	19.5	18.6	19.4	19.6
78.5°	16.7	17.6	17.7	19.0	19.2	19.7	18.6	18.4	17.6	18.4	18.5
79°	15.6	16.6	16.8	17.9	18.2	18.7	17.7	17.5	16.7	17.4	17.5
79.5°	14.6	15.5	15.7	17.0	17.3	17.8	16.8	16.5	15.8	16.4	16.6
80°	13.7	14.5	14.7	16.0	16.5	16.9	15.7	15.5	14.8	15.4	15.5
80.5°	12.6	13.5	13.8	15.0	15.5	16.0	14.8	14.5	13.9	14.4	14.6
81°	11.7	12.4	12.7	14.1	14.6	14.9	13.9	13.6	12.9	13.5	13.6
81.5°	10.7	11.4	11.8	13.2	13.7	14.0	12.9	12.5	12.0	12.4	12.6
82°	9.7	10.5	10.8	12.2	12.8	13.1	12.0	11.6	11.1	11.4	11.6
82.5°	8.7	9.4	9.8	11.3	11.9	12.2	11.1	10.6	10.2	10.5	10.7
83°	7.8	8.4	8.9	10.4	11.1	11.3	10.3	9.6	9.2	9.4	9.7
83.5°	6.7	7.4	8.1	9.4	10.2	10.4	9.4	8.7	8.3	8.5	8.9
84°	5.8	6.3	7.1	8.5	9.2	9.4	8.6	7.7	7.4	7.5	8.1
84.5°	4.8	5.4	6.3	7.7	8.4	8.6	7.7	6.7	6.4	6.5	7.3
85°	3.8	4.4	5.6	6.7	7.5	7.7	6.8	5.8	5.6	5.5	6.4
85.5°	3.2	3.7	4.8	5.8	6.6	6.8	6.0	5.0	4.7	4.7	5.6
86°	2.6	3.1	4.0	5.0	5.7	5.9	5.3	4.2	3.7	3.8	4.8
86.5°	2.1	2.4	3.3	4.0	4.9	5.0	4.5	3.5	3.0	3.2	4.0
87°	1.5	1.8	2.5	3.2	3.9	4.1	3.7	2.9	2.5	2.6	3.2
87.5°	0.9	1.1	1.8	2.4	3.1	3.3	3.0	2.3	2.0	2.1	2.5
88°	0.4	0.6	1.0	1.6	2.3	2.5	2.3	1.8	1.6	1.6	1.8
88.5°	0.1	0.2	0.4	0.7	1.5	1.6	1.6	1.2	1.0	0.9	0.9



TEST NUMBER: P775812
CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-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	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0



TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	626.0	626.0	626.0	626.0	626.0	626.0
0.5°	625.8	625.6	625.6	625.8	625.8	626.0
1°	625.6	625.3	625.2	625.4	625.4	625.6
1.5°	625.3	624.9	624.7	624.8	625.0	625.2
2°	625.0	624.4	624.2	624.3	624.5	624.8
2.5°	624.7	623.9	623.6	623.6	623.8	624.3
3°	624.3	623.4	622.9	622.9	623.2	623.6
3.5°	623.7	622.9	622.3	622.3	622.5	623.0
4°	623.2	622.2	621.6	621.5	621.7	622.3
4.5°	622.6	621.5	620.7	620.6	620.8	621.5
5°	622.0	620.7	619.8	619.7	620.0	620.6
5.5°	621.3	619.8	619.0	618.7	619.1	619.8
6°	620.5	618.8	618.0	617.7	618.0	618.8
6.5°	619.7	617.8	616.9	616.7	616.9	617.8
7°	618.8	616.8	615.8	615.5	615.8	616.7
7.5°	617.7	615.7	614.6	614.2	614.6	615.6
8°	616.7	614.4	613.4	613.0	613.3	614.3
8.5°	615.7	613.2	612.0	611.6	612.0	613.0
9°	614.4	611.8	610.6	610.2	610.6	611.6
9.5°	613.2	610.4	609.1	608.7	609.0	610.3
10°	611.9	608.9	607.6	607.2	607.6	608.7
10.5°	610.5	607.4	606.1	605.6	606.0	607.2
11°	609.0	605.8	604.4	604.0	604.3	605.5
11.5°	607.6	604.2	602.6	602.2	602.6	603.7
12°	606.0	602.4	601.0	600.3	600.7	602.0
12.5°	604.4	600.6	599.1	598.5	598.9	600.1
13°	602.6	598.7	597.1	596.5	596.8	598.3
13.5°	600.8	596.7	595.2	594.5	594.8	596.3
14°	599.1	594.6	593.1	592.5	592.8	594.2
14.5°	597.1	592.6	590.9	590.4	590.6	592.0
15°	595.0	590.4	588.7	588.1	588.3	589.8
15.5°	593.0	588.1	586.5	585.8	586.0	587.5
16°	590.8	585.7	584.1	583.4	583.6	585.1
16.5°	588.5	583.3	581.6	581.1	581.1	582.6
17°	586.2	580.9	579.1	578.5	578.6	580.0
17.5°	583.9	578.4	576.5	575.9	576.0	577.4
18°	581.5	575.7	573.8	573.2	573.2	574.6
18.5°	578.9	573.0	571.1	570.4	570.4	571.9
19°	576.3	570.1	568.2	567.6	567.5	569.0
19.5°	573.6	567.2	565.3	564.7	564.6	566.0
20°	570.8	564.3	562.3	561.9	561.6	563.0
20.5°	568.0	561.2	559.2	558.8	558.5	559.9
21°	565.0	558.2	556.1	555.7	555.3	556.7

TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	555.8	548.3	546.3	545.8	545.2	546.6
23°	552.6	544.8	542.8	542.4	541.7	543.1
23.5°	549.3	541.3	539.2	538.9	538.2	539.5
24°	545.8	537.7	535.7	535.3	534.5	535.9
24.5°	542.4	533.9	532.1	531.6	530.7	532.1
25°	538.9	530.1	528.4	527.9	527.0	528.2
25.5°	535.3	526.3	524.4	524.1	523.2	524.3
26°	531.6	522.4	520.7	520.3	519.2	520.4
26.5°	527.8	518.5	516.7	516.3	515.2	516.3
27°	523.9	514.5	512.7	512.4	511.2	512.2
27.5°	520.0	510.2	508.7	508.3	507.0	507.9
28°	516.0	506.1	504.4	504.0	502.9	503.7
28.5°	512.1	501.7	500.2	499.8	498.5	499.4
29°	507.8	497.5	495.9	495.5	494.3	495.1
29.5°	503.7	493.1	491.6	491.2	489.9	490.6
30°	499.3	488.7	487.2	486.7	485.5	486.2
30.5°	495.0	484.0	482.7	482.1	481.0	481.6
31°	490.5	479.4	478.2	477.6	476.5	477.1
31.5°	486.3	474.5	473.4	472.9	471.8	472.5
32°	481.7	469.9	468.8	468.3	467.2	468.1
32.5°	477.2	462.2	464.1	463.5	462.6	460.1
33°	472.5	453.9	459.4	458.8	457.8	451.8
33.5°	467.8	442.5	454.2	454.0	452.9	440.8
34°	462.8	430.7	449.6	449.1	448.5	429.0
34.5°	458.1	418.8	441.1	444.1	443.1	417.0
35°	450.8	407.0	433.1	439.2	434.0	405.5
35.5°	442.6	395.5	421.5	434.2	425.5	394.1
36°	432.0	384.0	410.9	429.2	414.6	382.6
36.5°	420.3	371.9	399.4	424.2	403.1	370.7
37°	409.2	359.4	388.3	419.1	391.9	358.0
37.5°	397.6	346.6	377.0	414.0	381.2	345.1
38°	386.2	333.2	366.0	408.9	370.3	332.2
38.5°	374.9	320.3	354.7	403.8	359.1	319.4
39°	363.9	307.7	343.0	398.8	348.0	306.9
39.5°	351.5	295.4	330.7	393.6	336.2	294.7
40°	339.2	283.5	318.6	388.4	324.2	282.6
40.5°	326.5	271.9	306.5	383.2	312.1	271.0
41°	314.4	260.1	294.3	378.2	300.0	259.0
41.5°	301.7	248.1	282.3	372.7	288.4	247.3
42°	289.7	236.2	271.6	364.7	277.1	235.4
42.5°	278.1	224.7	260.6	356.1	266.2	223.8
43°	267.0	213.0	249.3	343.5	255.0	212.1
43.5°	255.2	202.1	238.4	331.0	243.9	201.2

TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	221.6	170.7	205.1	289.2	210.8	169.8
45.5°	209.9	160.5	194.9	276.2	200.4	159.8
46°	199.1	151.0	184.5	263.7	190.1	150.3
46.5°	188.4	141.8	174.6	251.5	179.9	141.3
47°	178.2	133.1	164.7	239.3	170.1	132.5
47.5°	168.1	125.0	155.4	227.0	160.6	124.4
48°	158.4	117.6	146.0	214.9	151.1	117.0
48.5°	148.9	111.0	137.2	203.5	142.2	110.6
49°	139.8	105.2	129.1	192.4	133.7	104.9
49.5°	131.2	100.2	121.4	181.8	125.7	99.8
50°	122.9	95.7	113.9	171.3	117.9	95.1
50.5°	115.3	91.5	107.6	161.9	111.0	91.1
51°	108.4	87.6	101.7	152.8	104.8	87.3
51.5°	102.4	84.0	96.6	144.0	99.3	83.7
52°	97.2	80.5	92.1	135.7	94.4	80.0
52.5°	92.5	76.9	88.0	127.7	90.0	76.4
53°	88.7	73.3	84.3	120.1	86.0	72.9
53.5°	84.8	70.3	80.6	113.1	82.2	70.1
54°	81.0	68.0	77.1	106.4	78.6	67.9
54.5°	77.3	66.6	73.5	100.2	75.2	66.6
55°	73.7	65.5	70.1	94.5	71.7	65.5
55.5°	70.1	64.3	67.3	89.1	68.5	64.3
56°	67.1	63.3	65.1	84.2	65.9	63.2
56.5°	64.7	62.1	63.9	79.9	64.3	62.1
57°	63.3	61.1	62.8	75.7	63.1	61.1
57.5°	62.1	60.0	61.6	72.0	61.9	60.0
58°	61.1	58.9	60.6	68.7	60.9	58.9
58.5°	60.0	57.9	59.5	65.7	59.8	57.9
59°	58.9	56.9	58.4	63.2	58.7	56.9
59.5°	57.9	55.8	57.4	60.9	57.7	55.8
60°	56.9	54.8	56.3	58.8	56.6	54.8
60.5°	55.8	53.8	55.3	57.1	55.5	53.7
61°	54.8	52.7	54.3	55.4	54.5	52.6
61.5°	53.8	51.8	53.2	53.9	53.4	51.6
62°	52.7	50.8	52.2	52.5	52.3	50.5
62.5°	51.7	49.7	51.2	51.3	51.3	49.4
63°	50.6	48.8	50.1	50.2	50.2	48.4
63.5°	49.6	47.7	49.1	49.1	49.1	47.3
64°	48.6	46.7	48.1	48.1	48.1	46.3
64.5°	47.5	45.8	47.0	46.9	46.9	45.2
65°	46.6	44.7	46.0	45.9	45.9	44.1
65.5°	45.6	43.8	45.0	44.7	44.7	43.1
66°	44.5	42.8	43.9	43.7	43.7	42.1



TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	41.5	39.9	40.9	40.6	40.5	38.9
68°	40.5	38.8	39.9	39.6	39.4	37.9
68.5°	39.5	37.9	38.8	38.4	38.3	36.9
69°	38.4	37.0	37.9	37.2	37.8	35.8
69.5°	37.5	36.0	36.9	36.3	36.7	34.9
70°	36.5	35.1	35.9	35.2	35.5	33.9
70.5°	35.4	34.1	34.9	34.3	34.3	32.8
71°	34.5	33.1	33.9	33.4	33.1	31.9
71.5°	33.5	32.2	32.9	32.2	32.1	30.9
72°	32.5	31.3	31.9	31.2	31.1	29.8
72.5°	31.5	30.2	31.0	30.1	30.0	28.8
73°	30.5	29.3	29.9	29.1	28.9	27.8
73.5°	29.5	28.3	28.9	28.1	27.9	26.7
74°	28.5	27.3	27.9	27.0	26.8	25.7
74.5°	27.6	26.4	26.9	26.0	25.8	24.8
75°	26.5	25.5	25.9	25.0	24.8	23.7
75.5°	25.6	24.4	24.9	23.9	23.7	22.7
76°	24.5	23.5	23.9	22.9	22.6	21.8
76.5°	23.6	22.6	22.9	21.9	21.5	20.7
77°	22.6	21.6	22.0	20.8	20.5	19.7
77.5°	21.6	20.6	20.9	19.8	19.5	18.6
78°	20.6	19.7	19.9	18.7	18.4	17.7
78.5°	19.7	18.7	19.0	17.7	17.4	16.7
79°	18.6	17.7	17.9	16.7	16.4	15.6
79.5°	17.6	16.8	16.9	15.6	15.3	14.6
80°	16.7	15.8	15.8	14.7	14.2	13.7
80.5°	15.6	14.9	14.9	13.7	13.2	12.6
81°	14.7	14.0	13.9	12.7	12.1	11.7
81.5°	13.7	13.1	12.9	11.7	11.1	10.7
82°	12.7	12.0	11.9	10.8	10.0	9.7
82.5°	11.8	11.1	11.0	9.8	9.0	8.7
83°	10.9	10.2	10.0	8.9	8.0	7.8
83.5°	9.9	9.2	9.0	8.0	6.9	6.7
84°	8.9	8.3	8.1	7.1	6.0	5.8
84.5°	8.0	7.4	7.1	6.2	5.2	4.8
85°	7.0	6.4	6.2	5.4	4.4	3.8
85.5°	6.1	5.5	5.2	4.6	3.6	3.2
86°	5.2	4.6	4.2	3.7	3.0	2.6
86.5°	4.2	3.6	3.4	2.9	2.4	2.1
87°	3.4	2.8	2.6	2.1	1.7	1.5
87.5°	2.5	2.0	1.8	1.3	1.0	0.9
88°	1.7	1.0	0.9	0.5	0.4	0.4
88.5°	0.7	0.2	0.1	0.1	0.1	0.1



TEST NUMBER: P775812

CATALOG NUMBER: HCDJBL510CSD-HCD6TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.1	0.0	0.0



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

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21.5°	553.3	559.0	566.4	572.2	578.0	581.7	583.3	581.7	578.4	574.2	568.7
22°	550.0	555.8	563.4	569.4	575.3	579.1	580.9	579.2	575.7	571.5	565.8



44°	190.3	232.7	344.8	266.7	232.4	278.7	386.0	281.8	234.0	271.3	356.3
44.5°	179.9	221.6	331.9	255.2	220.9	266.7	374.4	269.7	222.5	259.6	343.0



66.5°	41.0	42.3	42.3	42.3	41.6	42.8	42.8	42.5	41.0	42.8	43.1
67°	40.0	41.2	41.2	41.3	40.7	41.8	41.7	41.4	40.0	41.7	42.1



89°	0.0	0.1	0.1	0.2	0.6	0.8	0.8	0.6	0.5	0.4	0.3
89.5°	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1

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21.5°	562.0	555.0	552.9	552.5	552.0	553.3
22°	559.0	551.6	549.6	549.3	548.7	550.0



44°	243.8	191.0	227.1	316.1	232.8	190.3
44.5°	232.5	180.8	216.2	302.8	221.9	179.9



66.5°	43.5	41.8	42.9	42.7	42.6	41.0
67°	42.5	40.8	41.9	41.6	41.5	40.0

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89°	0.2	0.0	0.1	0.1	0.1	0.0
89.5°	0.0	0.0	0.0	0.1	0.1	0.0

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(END OF REPORT)