

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: P775910

Luminaire Tested: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775910  
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-HCD8TSQMW-1000lm-2700K  
Description: 8 INCH SQUARE MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

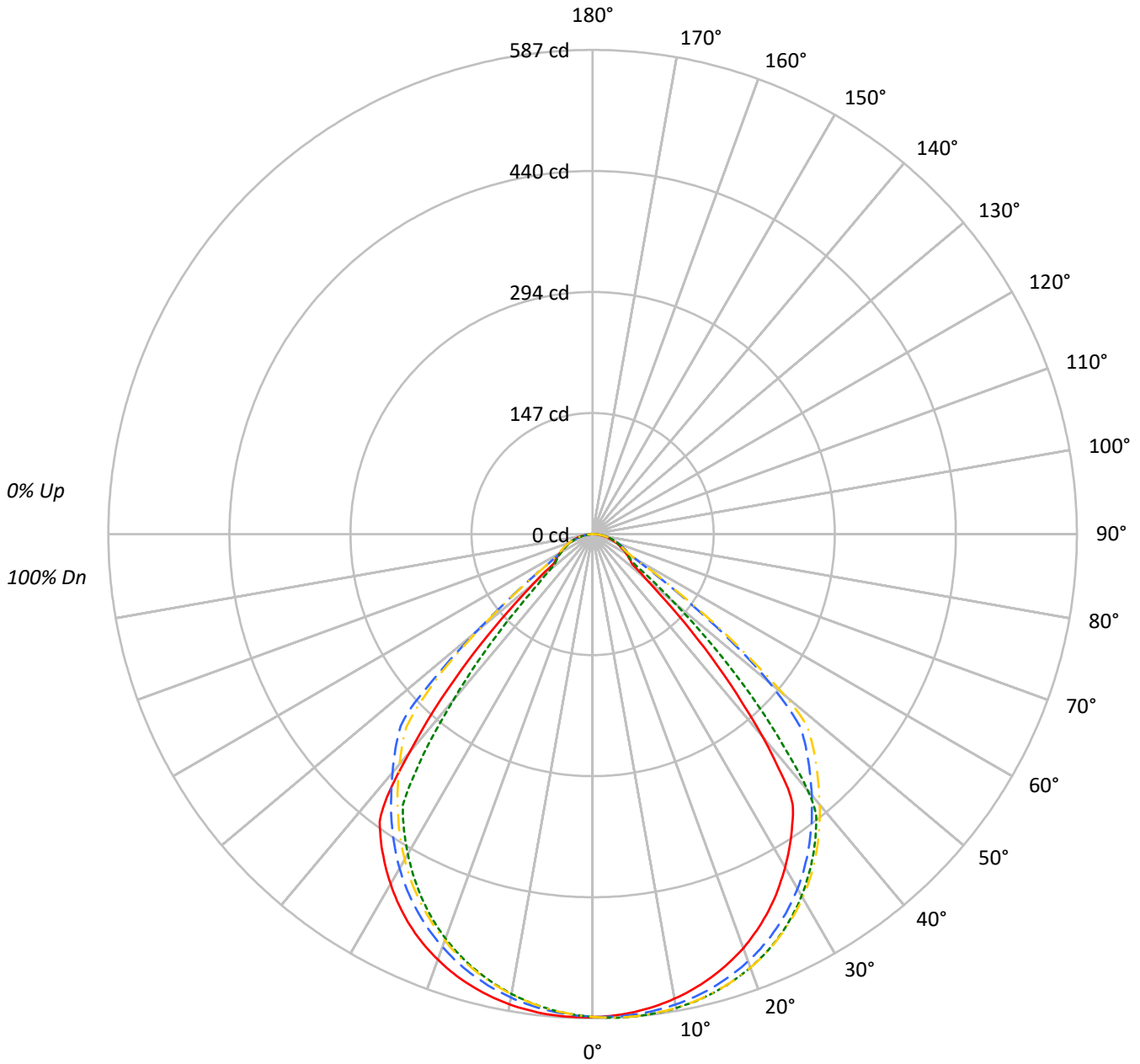
Lumens per Lamp: N/A  
Luminaire Lumens: 1060.0 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.29  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')  
CIE Type: Direct

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: P775910  
CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

### 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	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89																			
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70																			
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63																			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56																			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51																			
7	73	62	54	49	72	61	54	49	60	53	48	58	52	48	57	52	48	46																			
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42																			
9	65	53	45	41	63	52	45	40	51	45	40	50	44	40	49	44	40	38																			
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35																			

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

	0°	90°	180°	270°
0°	14035	14035	14035	14035
5°	13997	14129	14081	13927
10°	13925	14205	14098	13784
15°	13807	14259	14078	13584
20°	13629	14269	14006	13310
25°	13337	14205	13850	12922
30°	12919	14029	13556	12404
35°	12373	13696	13120	11732
40°	10026	12705	10808	8232
45°	6107	8742	6860	4524
50°	3130	4767	3499	2555
55°	2337	2441	2278	2186
60°	2259	2326	2196	2105
65°	2184	2287	2128	2031
70°	2117	2257	2054	1942
75°	2010	2261	1964	1807
80°	1809	2292	1809	1560
85°	1293	2449	1431	908

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 12917 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.4	5.2
10°-20°	158.3	14.9
20°-30°	236.6	22.3
30°-40°	271.5	25.6
40°-50°	197.2	18.6
50°-60°	72.2	6.8
60°-70°	38.7	3.7
70°-80°	23.4	2.2
80°-90°	6.6	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°	450.3	42.5
0°-40°	721.8	68.1
0°-60°	991.2	93.5
0°-90°	1060.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1060.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	585	585	585	585	585	
5°	582	587	585	579	582	55
15°	556	574	567	547	556	157
25°	504	537	524	488	504	232
35°	423	468	448	401	423	258
45°	180	258	202	133	180	142
55°	56	58	54	52	56	52
65°	38	40	38	36	38	38
75°	22	24	21	20	22	23
85°	5	9	5	3	5	6
90°	0	1	0	0	0	



TEST NUMBER: P775910

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	585.3	585.3	585.3	585.3	585.3	585.3	585.3	585.3	585.3	585.3	585.3
0.5°	585.5	585.6	585.3	585.2	585.7	585.7	585.7	585.9	585.9	585.6	584.8
1°	585.3	585.5	585.4	585.5	586.1	586.0	586.0	586.1	586.0	585.5	584.5
1.5°	585.0	585.4	585.5	585.7	586.4	586.3	586.3	586.3	586.0	585.4	584.2
2°	584.7	585.2	585.5	585.8	586.6	586.6	586.5	586.4	586.0	585.3	583.9
2.5°	584.2	585.0	585.5	586.0	586.8	586.8	586.7	586.4	586.0	585.1	583.4
3°	583.8	584.7	585.4	586.1	587.0	587.0	586.8	586.4	585.9	584.9	583.0
3.5°	583.4	584.4	585.3	586.1	587.0	587.1	586.9	586.5	585.8	584.6	582.4
4°	582.8	584.0	585.2	586.1	587.0	587.1	587.0	586.4	585.6	584.2	581.8
4.5°	582.2	583.6	584.9	585.9	587.0	587.1	586.9	586.3	585.3	583.8	581.2
5°	581.5	583.1	584.7	585.8	587.0	587.1	586.9	586.1	585.0	583.3	580.5
5.5°	580.8	582.6	584.3	585.6	586.9	586.9	586.7	585.9	584.6	582.7	579.8
6°	580.0	582.0	584.0	585.4	586.7	586.8	586.5	585.6	584.2	582.2	579.0
6.5°	579.3	581.3	583.5	585.1	586.5	586.6	586.3	585.3	583.7	581.6	578.2
7°	578.4	580.6	583.1	584.8	586.2	586.4	586.0	584.9	583.2	580.9	577.2
7.5°	577.4	579.9	582.5	584.4	585.9	586.2	585.7	584.5	582.6	580.2	576.3
8°	576.4	579.1	582.0	584.0	585.5	585.8	585.3	584.0	582.0	579.4	575.2
8.5°	575.4	578.2	581.3	583.4	585.1	585.4	584.9	583.5	581.3	578.5	574.1
9°	574.3	577.3	580.6	582.9	584.6	585.0	584.4	582.9	580.6	577.6	573.0
9.5°	573.1	576.3	579.9	582.3	584.1	584.4	583.9	582.3	579.8	576.6	571.8
10°	571.9	575.2	579.2	581.7	583.4	583.9	583.2	581.5	579.0	575.6	570.6
10.5°	570.6	574.1	578.3	581.0	582.8	583.3	582.6	580.7	578.0	574.6	569.2
11°	569.3	573.0	577.4	580.2	582.1	582.7	581.9	579.9	577.0	573.4	567.8
11.5°	567.9	571.8	576.3	579.4	581.4	581.9	581.1	579.0	576.0	572.3	566.4
12°	566.4	570.5	575.4	578.5	580.6	581.1	580.3	578.1	575.0	571.0	565.0
12.5°	564.8	569.2	574.3	577.6	579.7	580.3	579.5	577.2	573.8	569.6	563.4
13°	563.3	567.7	573.2	576.6	578.8	579.4	578.5	576.1	572.6	568.2	561.8
13.5°	561.6	566.3	572.0	575.6	577.8	578.5	577.5	575.0	571.3	566.8	560.1
14°	559.9	564.7	570.8	574.5	576.7	577.4	576.5	573.8	570.0	565.3	558.3
14.5°	558.1	563.2	569.5	573.4	575.6	576.4	575.4	572.6	568.6	563.8	556.5
15°	556.2	561.5	568.1	572.1	574.4	575.3	574.2	571.3	567.1	562.1	554.7
15.5°	554.3	559.8	566.7	570.8	573.2	574.0	573.1	570.0	565.6	560.5	552.8
16°	552.3	557.9	565.2	569.5	571.9	572.8	571.8	568.6	564.0	558.7	550.8
16.5°	550.3	556.2	563.6	568.1	570.6	571.5	570.4	567.1	562.4	556.9	548.7
17°	548.2	554.3	562.0	566.6	569.1	570.1	569.0	565.6	560.7	555.1	546.6
17.5°	546.0	552.3	560.4	565.1	567.6	568.7	567.5	564.0	558.9	553.2	544.4
18°	543.8	550.3	558.6	563.5	566.1	567.2	566.1	562.2	557.0	551.2	542.2
18.5°	541.4	548.2	556.8	561.9	564.5	565.6	564.5	560.6	555.1	549.1	539.8
19°	539.0	546.0	555.0	560.1	562.8	564.0	562.8	558.7	553.1	547.0	537.4
19.5°	536.6	543.7	553.0	558.3	561.0	562.3	561.1	557.0	551.1	544.8	535.0
20°	534.1	541.4	551.0	556.5	559.2	560.6	559.3	554.9	548.9	542.6	532.5
20.5°	531.4	539.0	549.0	554.6	557.3	558.7	557.5	553.0	546.7	540.3	529.9
21°	528.7	536.6	546.9	552.6	555.4	556.9	555.5	550.9	544.5	537.8	527.1



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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°	520.0	528.8	540.0	546.2	549.0	550.7	549.4	544.3	537.3	530.2	518.9
23°	517.0	525.9	537.6	544.0	546.8	548.5	547.3	542.0	534.7	527.4	516.0
23.5°	513.9	523.1	535.2	541.6	544.4	546.3	545.0	539.6	532.0	524.6	513.0
24°	510.7	520.1	532.6	539.2	542.1	544.0	542.6	537.0	529.4	521.8	510.0
24.5°	507.5	517.1	530.0	536.8	539.6	541.6	540.3	534.5	526.4	518.9	506.8
25°	504.1	514.0	527.2	534.1	536.9	539.1	537.8	531.9	523.5	515.9	503.7
25.5°	500.7	510.8	524.5	531.5	534.4	536.5	535.3	529.2	520.6	512.8	500.4
26°	497.3	507.6	521.6	528.8	531.6	534.0	532.7	526.3	517.5	509.7	497.1
26.5°	493.7	504.3	518.8	525.9	528.8	531.3	530.0	523.3	514.3	506.4	493.7
27°	490.1	500.9	515.9	523.1	525.8	528.2	527.2	520.3	511.0	503.1	490.2
27.5°	486.2	497.4	512.8	520.2	522.8	525.4	524.4	517.3	507.7	499.7	486.7
28°	482.5	493.9	509.6	517.1	519.7	522.5	521.5	514.2	504.3	496.2	483.2
28.5°	478.4	490.3	506.5	514.1	516.5	519.4	518.5	510.9	500.8	492.6	479.4
29°	474.7	486.6	503.2	510.8	513.5	516.2	515.5	507.7	497.1	489.0	475.7
29.5°	470.5	482.8	499.9	507.6	509.9	513.0	512.4	504.2	493.5	485.1	471.8
30°	466.6	478.9	496.5	504.3	506.7	509.7	509.1	500.8	489.6	481.4	468.0
30.5°	462.3	475.0	493.1	500.9	502.9	506.3	505.9	497.2	485.9	477.5	463.9
31°	458.3	471.1	489.5	497.3	499.6	502.9	502.5	493.6	482.0	473.5	459.9
31.5°	454.0	466.9	485.8	493.8	495.6	499.2	499.1	489.9	478.1	469.5	455.8
32°	449.8	462.8	482.1	490.1	491.8	495.7	495.5	486.1	474.1	465.5	451.6
32.5°	445.3	458.7	478.3	486.3	488.0	491.9	491.9	482.3	470.0	461.4	447.2
33°	441.1	454.6	474.3	482.5	484.2	488.2	488.2	478.4	465.8	457.3	442.9
33.5°	436.6	450.3	470.5	478.7	480.1	484.3	484.4	474.5	461.6	453.2	438.5
34°	432.1	446.1	466.4	474.7	476.0	480.3	480.5	470.4	457.3	449.0	434.0
34.5°	427.2	441.7	462.3	470.7	471.9	476.3	476.6	466.4	452.7	444.7	429.5
35°	422.7	437.3	458.1	466.6	467.9	472.4	472.6	462.3	448.2	440.3	424.9
35.5°	418.0	432.8	453.9	462.5	463.4	468.3	468.4	458.2	443.6	435.8	420.3
36°	413.1	428.3	449.5	458.3	459.1	464.1	464.2	453.9	438.9	431.3	415.6
36.5°	408.0	423.6	445.2	454.2	454.5	460.0	459.9	449.5	433.7	426.7	410.8
37°	399.4	418.9	440.8	449.9	449.9	455.6	455.6	445.0	426.1	421.9	406.1
37.5°	389.1	414.2	436.3	445.5	445.2	451.2	451.1	440.5	416.6	417.2	401.2
38°	375.3	409.3	431.8	441.1	440.4	446.6	446.7	435.8	404.8	412.1	396.4
38.5°	361.5	404.3	427.1	436.6	435.0	442.1	442.1	431.2	390.9	406.4	391.7
39°	348.1	396.8	422.5	432.1	427.3	437.4	437.6	426.4	376.2	397.1	386.9
39.5°	334.5	386.8	417.9	427.4	417.8	432.6	432.9	421.0	360.8	386.8	382.1
40°	320.3	373.7	413.2	422.6	405.9	427.7	428.1	412.2	345.3	374.5	377.4
40.5°	305.5	360.0	408.5	417.7	392.4	422.4	423.3	403.3	330.6	360.8	372.8
41°	290.4	346.9	403.7	412.8	377.1	414.1	418.7	391.6	316.5	347.2	368.1
41.5°	275.5	333.7	399.0	407.5	361.6	404.9	413.9	378.6	302.1	331.9	363.4
42°	261.3	319.9	394.2	400.4	346.0	393.7	409.2	364.5	287.6	317.9	358.6
42.5°	247.8	305.5	389.4	391.2	331.2	380.4	404.5	349.7	272.6	304.3	353.9
43°	233.9	291.2	384.7	380.3	316.8	366.0	399.7	335.3	257.8	291.4	349.1
43.5°	220.1	276.8	379.8	368.0	302.3	350.8	395.1	321.3	243.1	277.2	344.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	180.1	235.1	365.4	325.7	257.8	307.2	380.9	279.6	202.3	236.1	328.8
45.5°	167.3	221.9	360.5	311.6	242.8	293.3	376.0	265.3	188.8	221.8	320.7
46°	155.4	208.6	355.5	298.3	228.9	279.1	371.1	251.1	175.9	209.1	311.1
46.5°	143.7	195.1	350.5	285.0	215.3	264.4	366.2	236.7	163.2	196.0	297.7
47°	132.3	182.0	345.3	271.3	201.7	249.7	361.2	223.1	151.1	184.2	281.2
47.5°	122.0	169.4	336.1	257.5	188.3	235.3	356.0	209.9	139.4	171.2	264.7
48°	112.1	157.3	326.5	243.7	174.9	221.8	350.6	197.1	129.0	159.6	247.8
48.5°	103.3	145.7	314.5	229.8	162.3	208.5	342.3	184.0	118.7	147.8	231.5
49°	95.8	134.3	302.7	217.0	150.1	195.1	330.8	171.2	109.3	136.4	215.8
49.5°	89.4	123.7	290.7	203.7	138.6	182.1	318.1	158.9	100.4	126.1	200.3
50°	83.9	113.5	279.1	191.7	127.8	169.0	302.6	147.0	93.8	116.5	185.0
50.5°	79.3	104.2	266.5	179.3	117.8	156.5	286.1	135.8	87.3	107.0	170.4
51°	75.0	96.0	251.9	166.9	108.2	144.6	268.7	124.8	80.8	98.3	156.9
51.5°	70.7	89.4	237.1	154.5	99.5	133.2	251.2	114.9	74.3	91.4	144.3
52°	66.5	83.6	221.6	143.3	92.6	122.5	234.2	105.6	67.8	84.5	132.1
52.5°	62.8	78.7	205.7	132.2	85.6	112.5	217.5	98.4	62.7	77.7	121.0
53°	60.1	74.2	190.3	122.0	78.7	103.1	202.1	91.2	59.1	70.8	110.9
53.5°	58.8	70.1	175.3	112.0	71.8	96.0	187.4	84.0	57.5	65.3	101.6
54°	57.7	65.9	161.2	103.2	66.6	88.9	172.9	76.8	56.4	60.4	94.6
54.5°	56.8	61.9	147.6	94.4	61.7	81.8	158.8	69.6	55.4	56.8	87.7
55°	55.9	58.7	135.6	86.8	58.4	74.7	145.3	64.5	54.5	55.2	80.9
55.5°	54.9	56.8	124.2	79.8	56.9	67.6	132.6	59.6	53.5	54.1	74.0
56°	54.0	55.7	113.1	73.5	55.9	62.3	120.8	55.8	52.6	53.2	67.2
56.5°	53.1	54.8	103.1	67.7	54.9	57.7	110.6	54.2	51.7	52.2	62.7
57°	52.2	53.8	94.2	62.4	53.9	54.9	102.2	53.1	50.8	51.3	58.9
57.5°	51.3	52.9	86.1	57.7	53.0	53.7	93.8	52.2	50.0	50.4	55.7
58°	50.5	52.0	78.9	54.7	52.1	52.8	85.3	51.2	49.1	49.5	53.1
58.5°	49.6	51.1	72.7	53.5	51.2	51.8	76.9	50.4	48.3	48.7	50.9
59°	48.8	50.2	67.2	52.5	50.3	50.9	68.6	49.5	47.4	47.8	49.0
59.5°	47.9	49.4	62.8	51.5	49.4	50.0	63.0	48.6	46.6	47.0	47.4
60°	47.1	48.5	59.1	50.6	48.5	49.1	58.6	47.8	45.8	46.2	46.0
60.5°	46.2	47.7	56.1	49.7	47.6	48.2	55.2	46.9	45.0	45.4	44.9
61°	45.4	46.9	53.6	48.8	46.8	47.3	52.2	46.1	44.2	44.6	44.0
61.5°	44.5	46.1	51.3	48.0	46.0	46.5	50.0	45.3	43.3	43.8	43.1
62°	43.7	45.2	49.4	47.1	45.2	45.7	48.0	44.5	42.5	43.0	42.1
62.5°	42.8	44.4	47.7	46.3	44.4	44.9	46.4	43.7	41.6	42.2	41.2
63°	41.9	43.6	46.4	45.4	43.5	44.1	44.9	42.9	40.8	41.3	40.3
63.5°	41.1	42.8	45.4	44.6	42.7	43.3	43.8	42.1	40.0	40.5	39.5
64°	40.2	42.0	44.4	43.8	41.9	42.5	42.8	41.3	39.1	39.6	38.6
64.5°	39.4	41.1	43.5	42.9	41.1	41.7	41.9	40.5	38.3	38.8	37.7
65°	38.5	40.3	42.6	42.1	40.3	40.9	41.0	39.7	37.5	38.0	36.8
65.5°	37.6	39.5	41.6	41.3	39.4	40.1	40.1	38.9	36.6	37.1	36.0
66°	36.8	38.6	40.7	40.5	38.6	39.3	39.2	38.0	35.8	36.3	35.1





TEST NUMBER: P775910

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	34.3	36.5	38.1	38.0	36.2	36.9	36.6	35.5	33.4	33.8	32.5
68°	33.5	35.6	37.2	37.1	35.4	36.1	35.7	34.7	32.6	32.9	31.6
68.5°	32.7	34.7	36.1	36.2	34.6	35.2	34.9	33.9	31.8	32.1	30.7
69°	31.9	33.7	35.3	35.4	33.8	34.4	34.0	33.0	31.0	31.2	29.9
69.5°	31.0	32.8	34.5	34.6	33.0	33.6	33.2	32.2	30.2	30.4	29.0
70°	30.2	32.0	33.6	33.9	32.2	32.8	32.3	31.4	29.3	29.6	28.1
70.5°	29.3	31.1	32.8	33.1	31.5	32.0	31.5	30.6	28.5	28.7	27.3
71°	28.5	30.3	31.9	32.2	30.7	31.2	30.6	29.7	27.7	27.9	26.4
71.5°	27.6	29.5	31.1	31.4	29.9	30.4	29.8	28.9	26.9	27.1	25.5
72°	26.8	28.6	30.2	30.6	29.1	29.6	28.9	28.1	26.1	26.2	24.7
72.5°	25.9	27.7	29.3	29.8	28.4	28.8	28.1	27.3	25.3	25.4	23.8
73°	25.1	26.9	28.4	28.9	27.6	28.0	27.2	26.4	24.5	24.6	23.0
73.5°	24.2	26.0	27.6	28.1	26.8	27.2	26.4	25.6	23.7	23.7	22.1
74°	23.4	25.2	26.7	27.3	26.0	26.4	25.6	24.8	22.9	22.9	21.2
74.5°	22.5	24.3	25.8	26.5	25.2	25.6	24.7	24.0	22.0	22.0	20.4
75°	21.7	23.5	25.0	25.7	24.4	24.8	23.9	23.1	21.2	21.2	19.5
75.5°	20.8	22.6	24.1	24.9	23.7	24.0	23.1	22.3	20.4	20.3	18.6
76°	19.9	21.7	23.2	24.0	22.9	23.2	22.2	21.4	19.6	19.4	17.8
76.5°	19.1	20.8	22.4	23.2	22.1	22.4	21.4	20.6	18.8	18.6	16.9
77°	18.2	20.0	21.5	22.4	21.3	21.6	20.6	19.8	17.9	17.8	16.1
77.5°	17.4	19.1	20.6	21.5	20.5	20.8	19.7	18.9	17.1	16.9	15.2
78°	16.5	18.2	19.8	20.7	19.7	20.0	18.9	18.1	16.3	16.1	14.4
78.5°	15.7	17.4	18.9	19.9	18.9	19.2	18.1	17.2	15.5	15.2	13.5
79°	14.8	16.5	18.1	19.0	18.2	18.4	17.2	16.4	14.7	14.4	12.7
79.5°	14.0	15.6	17.2	18.2	17.4	17.6	16.4	15.6	13.9	13.5	11.8
80°	13.1	14.8	16.3	17.4	16.6	16.7	15.6	14.7	13.1	12.7	11.0
80.5°	12.3	13.9	15.5	16.5	15.8	16.0	14.8	13.9	12.3	11.8	10.2
81°	11.5	13.0	14.7	15.7	15.1	15.2	14.0	13.1	11.5	11.0	9.3
81.5°	10.6	12.1	13.8	14.9	14.3	14.3	13.1	12.3	10.7	10.1	8.5
82°	9.8	11.3	12.9	14.0	13.5	13.6	12.3	11.4	9.9	9.3	7.7
82.5°	8.9	10.4	12.1	13.2	12.7	12.7	11.5	10.6	9.1	8.4	6.8
83°	8.1	9.6	11.3	12.4	12.0	11.9	10.7	9.8	8.3	7.6	6.0
83.5°	7.2	8.7	10.4	11.6	11.2	11.1	9.9	8.9	7.5	6.7	5.3
84°	6.4	7.8	9.6	10.8	10.4	10.3	9.1	8.1	6.7	5.9	4.6
84.5°	5.6	7.0	8.7	9.9	9.7	9.5	8.3	7.3	5.9	5.1	3.9
85°	4.7	6.1	7.9	9.1	8.9	8.8	7.5	6.4	5.2	4.2	3.2
85.5°	3.9	5.3	7.1	8.3	8.1	8.0	6.7	5.6	4.4	3.4	2.5
86°	3.3	4.4	6.2	7.5	7.4	7.2	5.9	4.8	3.7	2.7	1.9
86.5°	2.6	3.5	5.5	6.8	6.6	6.4	5.2	3.9	2.9	2.1	1.2
87°	2.0	2.9	4.8	6.0	5.8	5.6	4.5	3.2	2.2	1.6	0.6
87.5°	1.4	2.3	4.1	5.2	5.1	4.9	3.8	2.6	1.7	1.1	0.1
88°	0.8	1.7	3.5	4.5	4.3	4.1	3.2	2.0	1.2	0.6	0.0
88.5°	0.3	1.1	2.8	3.7	3.6	3.4	2.5	1.5	0.7	0.1	0.0



TEST NUMBER: P775910  
CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.8	1.5	1.4	1.2	0.6	0.1	0.0	0.0	0.0



TEST NUMBER: P775910

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	585.3	585.3	585.3	585.3	585.3	585.3
0.5°	584.5	584.9	584.8	584.9	585.2	585.5
1°	584.1	584.4	584.2	584.4	584.8	585.3
1.5°	583.6	583.9	583.6	583.8	584.4	585.0
2°	583.1	583.3	583.0	583.3	583.9	584.7
2.5°	582.5	582.6	582.4	582.6	583.3	584.2
3°	581.9	582.0	581.6	582.0	582.7	583.8
3.5°	581.2	581.2	580.9	581.2	582.1	583.4
4°	580.5	580.4	580.0	580.4	581.4	582.8
4.5°	579.7	579.5	579.2	579.6	580.7	582.2
5°	578.9	578.6	578.2	578.6	579.8	581.5
5.5°	578.0	577.6	577.2	577.7	579.0	580.8
6°	577.0	576.6	576.1	576.7	578.1	580.0
6.5°	576.0	575.5	575.0	575.6	577.2	579.3
7°	574.9	574.3	573.8	574.5	576.1	578.4
7.5°	573.8	573.1	572.5	573.3	575.1	577.4
8°	572.6	571.8	571.2	572.1	573.9	576.4
8.5°	571.3	570.5	569.9	570.8	572.7	575.4
9°	570.0	569.0	568.5	569.4	571.5	574.3
9.5°	568.6	567.6	567.0	568.0	570.2	573.1
10°	567.2	566.1	565.4	566.5	568.8	571.9
10.5°	565.6	564.5	563.8	565.0	567.4	570.6
11°	564.1	562.8	562.2	563.4	565.9	569.3
11.5°	562.4	561.1	560.5	561.8	564.4	567.9
12°	560.8	559.3	558.6	560.0	562.7	566.4
12.5°	559.0	557.4	556.8	558.3	561.0	564.8
13°	557.2	555.5	554.8	556.4	559.4	563.3
13.5°	555.3	553.5	552.9	554.6	557.6	561.6
14°	553.4	551.5	550.8	552.6	555.7	559.9
14.5°	551.4	549.4	548.7	550.6	553.8	558.1
15°	549.3	547.2	546.4	548.5	551.8	556.2
15.5°	547.2	545.0	544.3	546.4	549.7	554.3
16°	545.0	542.6	542.0	544.1	547.7	552.3
16.5°	542.8	540.3	539.6	541.9	545.5	550.3
17°	540.4	537.9	537.1	539.5	543.3	548.2
17.5°	538.0	535.3	534.6	537.2	541.0	546.0
18°	535.6	532.7	532.1	534.7	538.6	543.8
18.5°	533.0	530.0	529.5	532.1	536.2	541.4
19°	530.4	527.2	526.5	529.6	533.7	539.0
19.5°	527.7	524.5	523.8	526.8	531.2	536.6
20°	525.0	521.6	521.0	524.1	528.5	534.1
20.5°	522.1	518.6	518.1	521.4	525.7	531.4
21°	519.3	515.6	515.1	518.4	522.9	528.7

TEST NUMBER: P775910

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	510.2	506.0	505.7	509.5	514.1	520.0
23°	507.1	502.6	502.4	506.4	511.1	517.0
23.5°	503.8	499.3	499.1	503.3	508.0	513.9
24°	500.5	495.7	495.7	500.0	504.8	510.7
24.5°	497.1	492.1	492.1	496.7	501.5	507.5
25°	493.6	488.4	488.5	493.3	498.2	504.1
25.5°	490.1	484.7	484.9	489.9	494.7	500.7
26°	486.4	480.9	481.2	486.3	491.3	497.3
26.5°	482.7	477.1	477.4	482.7	487.7	493.7
27°	479.0	473.1	473.5	479.1	484.1	490.1
27.5°	475.1	469.0	469.6	475.4	480.3	486.2
28°	471.2	464.9	465.5	471.5	476.5	482.5
28.5°	467.2	460.7	461.5	467.7	472.7	478.4
29°	463.2	456.5	457.4	463.7	468.9	474.7
29.5°	459.1	452.3	453.2	459.7	464.8	470.5
30°	454.9	448.0	448.9	455.7	460.8	466.6
30.5°	450.7	443.6	444.7	451.5	456.7	462.3
31°	446.5	439.2	440.4	447.4	452.5	458.3
31.5°	442.2	434.7	435.9	443.1	448.3	454.0
32°	437.9	430.1	431.5	438.8	444.0	449.8
32.5°	433.6	425.5	427.2	434.3	439.7	445.3
33°	429.1	420.8	422.7	430.0	435.4	441.1
33.5°	424.6	416.0	418.0	425.5	430.9	436.6
34°	420.0	411.2	413.5	421.0	426.7	432.1
34.5°	415.5	406.1	408.7	416.2	422.2	427.2
35°	410.8	400.8	404.0	411.7	417.7	422.7
35.5°	406.1	390.2	399.1	407.1	413.2	418.0
36°	401.3	378.1	394.3	402.3	408.6	413.1
36.5°	396.4	364.5	389.0	397.6	403.8	408.0
37°	391.2	350.9	381.6	392.9	399.1	399.4
37.5°	385.1	336.9	371.1	388.1	394.3	389.1
38°	374.8	322.5	358.2	383.3	389.4	375.3
38.5°	362.4	307.7	344.9	378.5	384.6	361.5
39°	349.3	292.5	332.4	373.8	379.4	348.1
39.5°	336.1	277.2	318.9	369.0	371.2	334.5
40°	322.9	263.0	305.1	364.3	361.3	320.3
40.5°	309.0	248.9	290.6	359.4	348.5	305.5
41°	294.7	235.3	276.5	354.6	335.7	290.4
41.5°	280.1	221.3	262.4	349.8	323.3	275.5
42°	265.9	207.9	248.7	345.1	310.5	261.3
42.5°	251.9	194.1	235.6	340.3	297.7	247.8
43°	238.3	181.0	223.0	335.5	284.2	233.9
43.5°	225.2	168.3	209.9	330.5	270.5	220.1



TEST NUMBER: P775910

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	186.0	133.4	171.4	306.8	230.8	180.1
45.5°	173.3	122.5	159.5	295.6	218.4	167.3
46°	161.1	112.6	148.2	284.1	205.8	155.4
46.5°	149.4	103.8	137.0	273.2	193.2	143.7
47°	138.1	96.5	126.1	261.9	180.6	132.3
47.5°	127.3	90.3	116.1	250.3	168.5	122.0
48°	116.7	85.2	106.8	236.3	156.9	112.1
48.5°	107.4	80.7	98.8	221.8	145.7	103.3
49°	98.8	76.6	92.0	206.5	134.7	95.8
49.5°	93.3	72.5	86.1	192.1	124.5	89.4
50°	88.0	68.5	81.2	178.4	114.3	83.9
50.5°	82.7	64.4	76.9	165.4	105.1	79.3
51°	77.3	61.2	72.9	152.7	96.7	75.0
51.5°	72.0	59.1	68.9	141.3	89.6	70.7
52°	67.9	57.9	64.9	130.3	83.4	66.5
52.5°	64.0	56.9	61.1	119.5	78.1	62.8
53°	60.1	56.0	58.2	109.8	73.5	60.1
53.5°	57.0	55.1	56.8	101.0	69.3	58.8
54°	55.3	54.1	55.7	92.6	65.1	57.7
54.5°	54.3	53.2	54.8	85.7	61.2	56.8
55°	53.3	52.3	53.8	79.0	57.9	55.9
55.5°	52.4	51.4	52.9	73.2	55.9	54.9
56°	51.5	50.6	52.0	67.9	54.9	54.0
56.5°	50.6	49.7	51.1	63.8	53.9	53.1
57°	49.8	48.9	50.2	60.1	53.0	52.2
57.5°	48.9	48.0	49.4	57.1	52.1	51.3
58°	48.1	47.2	48.6	54.5	51.2	50.5
58.5°	47.3	46.4	47.7	52.4	50.3	49.6
59°	46.4	45.6	46.9	50.4	49.5	48.8
59.5°	45.6	44.8	46.1	48.7	48.6	47.9
60°	44.8	43.9	45.2	47.4	47.7	47.1
60.5°	44.0	43.1	44.5	46.4	46.9	46.2
61°	43.2	42.3	43.7	45.5	46.0	45.4
61.5°	42.3	41.5	42.9	44.6	45.2	44.5
62°	41.5	40.6	42.0	43.6	44.3	43.7
62.5°	40.7	39.8	41.2	42.7	43.5	42.8
63°	39.8	39.0	40.4	41.8	42.6	41.9
63.5°	39.0	38.1	39.5	40.9	41.7	41.1
64°	38.2	37.3	38.7	40.0	40.8	40.2
64.5°	37.3	36.6	37.8	39.1	39.9	39.4
65°	36.5	35.8	37.0	38.2	39.1	38.5
65.5°	35.6	35.0	36.0	37.4	38.2	37.6
66°	34.8	34.2	35.3	36.5	37.3	36.8



TEST NUMBER: P775910

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	32.3	31.7	33.0	33.8	34.7	34.3
68°	31.5	30.9	32.1	33.0	33.8	33.5
68.5°	30.6	30.1	31.3	32.1	32.9	32.7
69°	29.8	29.3	30.5	31.2	32.1	31.9
69.5°	28.9	28.5	29.6	30.3	31.2	31.0
70°	28.1	27.7	28.8	29.4	30.3	30.2
70.5°	27.3	26.9	27.9	28.5	29.4	29.3
71°	26.5	26.1	27.1	27.6	28.6	28.5
71.5°	25.6	25.3	26.3	26.7	27.7	27.6
72°	24.8	24.4	25.4	25.8	26.8	26.8
72.5°	23.9	23.6	24.5	24.9	25.9	25.9
73°	23.1	22.8	23.7	24.1	25.0	25.1
73.5°	22.2	21.9	22.8	23.2	24.1	24.2
74°	21.4	21.1	22.0	22.3	23.3	23.4
74.5°	20.5	20.3	21.1	21.4	22.4	22.5
75°	19.7	19.5	20.2	20.5	21.5	21.7
75.5°	18.8	18.6	19.4	19.6	20.5	20.8
76°	18.0	17.8	18.5	18.7	19.7	19.9
76.5°	17.1	17.0	17.7	17.8	18.8	19.1
77°	16.3	16.2	16.8	17.0	17.9	18.2
77.5°	15.4	15.4	16.0	16.1	17.0	17.4
78°	14.6	14.6	15.1	15.2	16.1	16.5
78.5°	13.7	13.7	14.3	14.3	15.2	15.7
79°	12.9	12.9	13.4	13.4	14.3	14.8
79.5°	12.0	12.1	12.5	12.5	13.4	14.0
80°	11.2	11.3	11.7	11.7	12.5	13.1
80.5°	10.3	10.5	10.8	10.8	11.6	12.3
81°	9.5	9.7	10.0	9.9	10.7	11.5
81.5°	8.7	8.9	9.2	9.1	9.8	10.6
82°	7.9	8.1	8.3	8.3	8.9	9.8
82.5°	7.1	7.2	7.5	7.5	8.1	8.9
83°	6.2	6.4	6.7	6.7	7.2	8.1
83.5°	5.4	5.6	5.8	5.9	6.2	7.2
84°	4.6	4.8	5.0	5.2	5.4	6.4
84.5°	3.9	4.1	4.2	4.4	4.5	5.6
85°	3.1	3.3	3.4	3.7	3.8	4.7
85.5°	2.3	2.5	2.7	3.0	3.2	3.9
86°	1.5	1.8	1.9	2.3	2.6	3.3
86.5°	0.8	1.0	1.1	1.6	1.9	2.6
87°	0.2	0.3	0.4	0.8	1.3	2.0
87.5°	0.0	0.0	0.1	0.3	0.8	1.4
88°	0.0	0.0	0.0	0.0	0.3	0.8
88.5°	0.0	0.0	0.0	0.0	0.0	0.3



TEST NUMBER: P775910  
CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMW-1000lm-2700K

**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°	525.8	534.1	544.6	550.6	553.3	554.9	553.6	548.8	542.2	535.3	524.5
22°	522.9	531.5	542.4	548.4	551.2	552.9	551.6	546.6	539.8	532.7	521.7



44°	206.5	262.5	374.9	354.1	287.5	335.8	390.4	307.7	229.0	263.4	339.3
44.5°	193.1	248.6	370.0	339.9	272.7	321.1	385.7	293.5	215.3	248.9	334.4



66.5°	36.0	37.8	39.8	39.6	37.8	38.5	38.3	37.2	35.0	35.4	34.2
67°	35.2	36.9	38.9	38.8	37.0	37.7	37.5	36.4	34.2	34.6	33.4



89°	0.0	0.6	2.1	3.0	2.8	2.6	1.9	0.9	0.3	0.0	0.0
89.5°	0.0	0.1	1.5	2.2	2.1	1.9	1.2	0.4	0.0	0.0	0.0



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21.5°	516.3	512.4	512.1	515.5	520.1	525.8
22°	513.3	509.2	508.8	512.6	517.2	522.9



44°	212.3	156.4	196.8	325.2	257.0	206.5
44.5°	199.2	144.4	183.8	316.3	243.7	193.1



66.5°	34.0	33.4	34.5	35.6	36.4	36.0
67°	33.2	32.6	33.7	34.7	35.5	35.2

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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)