

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: P775855

Luminaire Tested: HCDJBS510CSD-HCD82TRMB-1000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775855  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B065-HCD82TRMB)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL510CSD-HCD82TRMB-1000lm-2700K  
Description: 8 INCH ROUND NARROW MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 661.0 lumens  
Efficiency: N/A  
Efficacy: 66.1 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.06 / 1.08  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

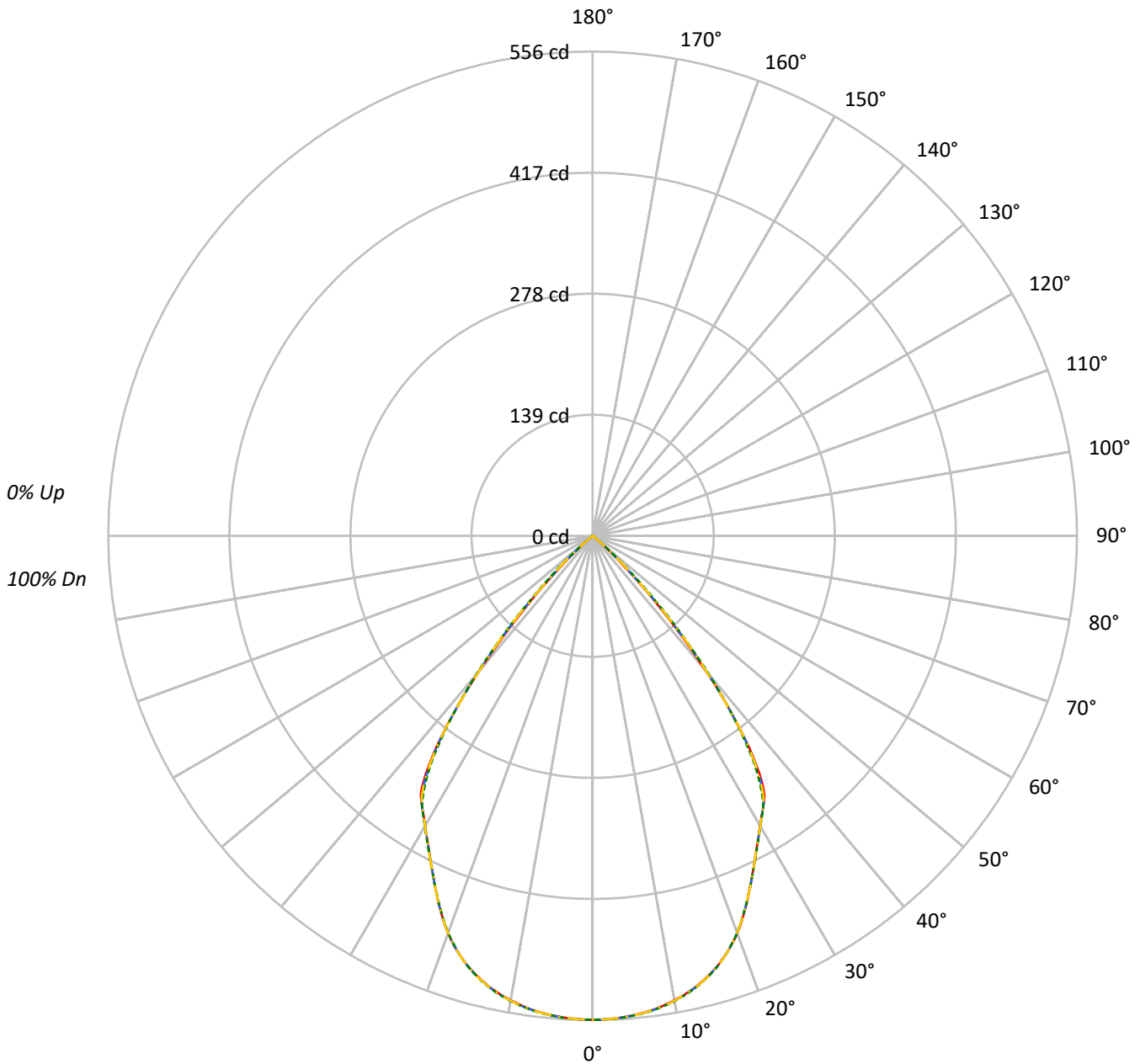
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

### 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	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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93					93			
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86					86			
3	101	95	89	85	99	93	88	85	91	86	83	88	85	82	86	83	81	79					79			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	81	77	74	73					73			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	75	72	69	67					67			
6	85	76	70	65	84	75	69	65	74	68	64	72	67	64	71	67	63	62					62			
7	81	71	64	60	79	70	64	60	69	63	59	68	63	59	66	62	59	57					57			
8	76	66	60	55	75	66	60	55	64	59	55	63	58	55	62	58	55	53					53			
9	72	62	56	51	71	61	55	51	60	55	51	60	55	51	59	54	51	49					49			
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46					46			

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

	0°	90°	180°	270°
0°	16969	16969	16969	16969
5°	16929	16945	16929	16945
10°	16793	16818	16793	16818
15°	16471	16486	16471	16486
20°	15774	15757	15774	15757
25°	14569	14583	14569	14583
30°	13562	13583	13562	13583
35°	12452	12199	12452	12199
40°	8035	8258	8035	8258
45°	2949	3545	2949	3545
50°	337	541	337	541
55°	53	53	53	53
60°	31	31	31	31
65°	22	22	22	22
70°	18	18	18	18
75°	12	12	12	12
80°	0	0	0	0
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 3545 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.4	7.9
10°-20°	146.2	22.1
20°-30°	199.3	30.1
30°-40°	196.8	29.8
40°-50°	64.4	9.7
50°-60°	1.5	0.2
60°-70°	0.3	0.0
70°-80°	0.1	0.0
80°-90°	0.0	0.0
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°	397.9	60.2
0°-40°	594.6	90.0
0°-60°	660.6	99.9
0°-90°	661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	661.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	556	556	556	556	556	
5°	552	553	552	553	552	52
15°	521	522	521	522	521	146
25°	432	433	432	433	432	199
35°	334	327	334	327	334	197
45°	68	82	68	82	68	60
55°	1	1	1	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
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°	555.8	555.8	555.8	555.8	555.8	555.8	555.8	555.8	555.8	555.8	555.8
0.5°	555.7	555.7	555.8	555.7	555.8	555.7	555.8	555.7	555.7	555.7	555.8
1°	555.6	555.6	555.7	555.6	555.8	555.6	555.7	555.6	555.6	555.6	555.7
1.5°	555.4	555.5	555.5	555.5	555.6	555.5	555.5	555.5	555.4	555.5	555.5
2°	555.2	555.2	555.3	555.3	555.4	555.3	555.3	555.2	555.2	555.2	555.3
2.5°	554.9	555.0	555.0	555.0	555.1	555.0	555.0	555.0	554.9	555.0	555.0
3°	554.6	554.6	554.7	554.7	554.8	554.7	554.7	554.6	554.6	554.6	554.7
3.5°	554.2	554.2	554.3	554.3	554.4	554.3	554.3	554.2	554.2	554.2	554.3
4°	553.7	553.7	553.8	553.8	554.0	553.8	553.8	553.7	553.7	553.7	553.8
4.5°	553.1	553.1	553.2	553.3	553.4	553.3	553.2	553.1	553.1	553.1	553.2
5°	552.4	552.5	552.6	552.7	552.9	552.7	552.6	552.5	552.4	552.5	552.6
5.5°	551.8	551.8	551.9	552.0	552.2	552.0	551.9	551.8	551.8	551.8	551.9
6°	551.0	551.0	551.2	551.3	551.5	551.3	551.2	551.0	551.0	551.0	551.2
6.5°	550.1	550.2	550.4	550.5	550.7	550.5	550.4	550.2	550.1	550.2	550.4
7°	549.2	549.2	549.5	549.6	549.8	549.6	549.5	549.2	549.2	549.2	549.5
7.5°	548.2	548.2	548.5	548.6	548.8	548.6	548.5	548.2	548.2	548.2	548.5
8°	547.1	547.2	547.4	547.6	547.8	547.6	547.4	547.2	547.1	547.2	547.4
8.5°	545.9	546.0	546.2	546.4	546.6	546.4	546.2	546.0	545.9	546.0	546.2
9°	544.5	544.6	544.9	545.1	545.3	545.1	544.9	544.6	544.5	544.6	544.9
9.5°	543.1	543.2	543.5	543.8	544.0	543.8	543.5	543.2	543.1	543.2	543.5
10°	541.7	541.8	542.0	542.3	542.5	542.3	542.0	541.8	541.7	541.8	542.0
10.5°	540.1	540.2	540.5	540.8	541.0	540.8	540.5	540.2	540.1	540.2	540.5
11°	538.5	538.6	538.9	539.1	539.3	539.1	538.9	538.6	538.5	538.6	538.9
11.5°	536.7	536.8	537.1	537.3	537.6	537.3	537.1	536.8	536.7	536.8	537.1
12°	534.9	534.9	535.2	535.5	535.7	535.5	535.2	534.9	534.9	534.9	535.2
12.5°	532.9	532.9	533.2	533.5	533.7	533.5	533.2	532.9	532.9	532.9	533.2
13°	530.8	530.9	531.1	531.4	531.5	531.4	531.1	530.9	530.8	530.9	531.1
13.5°	528.5	528.6	528.9	529.1	529.3	529.1	528.9	528.6	528.5	528.6	528.9
14°	526.2	526.3	526.5	526.7	526.9	526.7	526.5	526.3	526.2	526.3	526.5
14.5°	523.7	523.8	524.0	524.2	524.4	524.2	524.0	523.8	523.7	523.8	524.0
15°	521.1	521.1	521.3	521.5	521.6	521.5	521.3	521.1	521.1	521.1	521.3
15.5°	518.3	518.3	518.5	518.7	518.8	518.7	518.5	518.3	518.3	518.3	518.5
16°	515.3	515.4	515.5	515.6	515.8	515.6	515.5	515.4	515.3	515.4	515.5
16.5°	512.3	512.3	512.4	512.5	512.6	512.5	512.4	512.3	512.3	512.3	512.4
17°	509.0	509.0	509.1	509.2	509.3	509.2	509.1	509.0	509.0	509.0	509.1
17.5°	505.5	505.5	505.6	505.6	505.7	505.6	505.6	505.5	505.5	505.5	505.6
18°	502.0	501.9	501.9	501.9	502.0	501.9	501.9	501.9	502.0	501.9	501.9
18.5°	498.1	498.1	498.0	498.0	498.0	498.0	498.0	498.1	498.1	498.1	498.0
19°	494.1	494.1	494.0	493.9	493.9	493.9	494.0	494.1	494.1	494.1	494.0
19.5°	489.9	489.8	489.7	489.6	489.6	489.6	489.7	489.8	489.9	489.8	489.7
20°	485.5	485.4	485.3	485.1	485.0	485.1	485.3	485.4	485.5	485.4	485.3
20.5°	480.8	480.7	480.5	480.3	480.2	480.3	480.5	480.7	480.8	480.7	480.5
21°	475.9	475.9	475.7	475.3	475.1	475.3	475.7	475.9	475.9	475.9	475.7



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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°	460.1	460.1	459.9	459.6	459.6	459.6	459.9	460.1	460.1	460.1	459.9
23°	454.6	454.6	454.5	454.2	454.2	454.2	454.5	454.6	454.6	454.6	454.5
23.5°	449.0	449.1	449.0	448.8	448.8	448.8	449.0	449.1	449.0	449.1	449.0
24°	443.4	443.5	443.5	443.4	443.5	443.4	443.5	443.5	443.4	443.5	443.5
24.5°	438.0	438.0	438.1	438.0	438.2	438.0	438.1	438.0	438.0	438.0	438.1
25°	432.5	432.6	432.7	432.7	432.9	432.7	432.7	432.6	432.5	432.6	432.7
25.5°	427.3	427.3	427.4	427.5	427.7	427.5	427.4	427.3	427.3	427.3	427.4
26°	422.1	422.2	422.3	422.4	422.6	422.4	422.3	422.2	422.1	422.2	422.3
26.5°	417.0	417.1	417.2	417.3	417.6	417.3	417.2	417.1	417.0	417.1	417.2
27°	412.1	412.1	412.3	412.3	412.6	412.3	412.3	412.1	412.1	412.1	412.3
27.5°	407.2	407.3	407.4	407.6	407.8	407.6	407.4	407.3	407.2	407.3	407.4
28°	402.4	402.5	402.7	402.8	403.1	402.8	402.7	402.5	402.4	402.5	402.7
28.5°	397.7	397.9	398.0	398.1	398.4	398.1	398.0	397.9	397.7	397.9	398.0
29°	393.3	393.4	393.5	393.6	393.9	393.6	393.5	393.4	393.3	393.4	393.5
29.5°	388.9	389.0	389.2	389.3	389.5	389.3	389.2	389.0	388.9	389.0	389.2
30°	384.7	384.7	384.9	385.0	385.3	385.0	384.9	384.7	384.7	384.7	384.9
30.5°	380.5	380.6	380.7	380.9	381.1	380.9	380.7	380.6	380.5	380.6	380.7
31°	376.5	376.6	376.8	376.9	377.2	376.9	376.8	376.6	376.5	376.6	376.8
31.5°	372.7	372.8	372.8	372.9	373.1	372.9	372.8	372.8	372.7	372.8	372.8
32°	369.0	369.0	369.0	368.9	369.1	368.9	369.0	369.0	369.0	369.0	369.0
32.5°	365.4	365.3	365.1	364.7	364.3	364.7	365.1	365.3	365.4	365.3	365.1
33°	361.5	361.3	360.3	359.3	358.2	359.3	360.3	361.3	361.5	361.3	360.3
33.5°	357.3	356.3	354.4	352.7	351.3	352.7	354.4	356.3	357.3	356.3	354.4
34°	351.3	350.0	347.4	345.2	343.7	345.2	347.4	350.0	351.3	350.0	347.4
34.5°	343.4	342.3	339.4	337.3	335.8	337.3	339.4	342.3	343.4	342.3	339.4
35°	334.1	333.0	330.4	328.7	327.3	328.7	330.4	333.0	334.1	333.0	330.4
35.5°	323.8	323.2	320.8	319.0	317.6	319.0	320.8	323.2	323.8	323.2	320.8
36°	312.9	312.4	310.4	308.6	307.1	308.6	310.4	312.4	312.9	312.4	310.4
36.5°	301.3	300.9	299.2	297.3	295.7	297.3	299.2	300.9	301.3	300.9	299.2
37°	288.3	288.0	287.0	285.6	284.0	285.6	287.0	288.0	288.3	288.0	287.0
37.5°	274.9	274.5	274.1	273.2	271.9	273.2	274.1	274.5	274.9	274.5	274.1
38°	260.7	260.1	260.3	260.2	259.6	260.2	260.3	260.1	260.7	260.1	260.3
38.5°	246.8	245.9	246.1	246.6	247.1	246.6	246.1	245.9	246.8	245.9	246.1
39°	231.9	231.6	231.8	233.0	234.3	233.0	231.8	231.6	231.9	231.6	231.8
39.5°	217.1	217.3	217.7	219.2	221.0	219.2	217.7	217.3	217.1	217.3	217.7
40°	201.6	202.6	203.5	205.5	207.2	205.5	203.5	202.6	201.6	202.6	203.5
40.5°	186.7	188.1	189.8	192.0	193.5	192.0	189.8	188.1	186.7	188.1	189.8
41°	171.3	173.2	176.0	178.5	180.0	178.5	176.0	173.2	171.3	173.2	176.0
41.5°	156.8	158.8	162.2	165.2	166.6	165.2	162.2	158.8	156.8	158.8	162.2
42°	142.6	144.4	148.4	152.0	153.3	152.0	148.4	144.4	142.6	144.4	148.4
42.5°	128.8	131.0	135.5	139.1	140.3	139.1	135.5	131.0	128.8	131.0	135.5
43°	115.5	118.0	122.5	126.3	127.6	126.3	122.5	118.0	115.5	118.0	122.5
43.5°	103.0	105.4	109.9	113.8	115.6	113.8	109.9	105.4	103.0	105.4	109.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	68.3	70.4	75.0	79.6	82.1	79.6	75.0	70.4	68.3	70.4	75.0
45.5°	57.8	60.3	65.0	69.8	72.1	69.8	65.0	60.3	57.8	60.3	65.0
46°	48.6	50.7	56.0	60.7	63.5	60.7	56.0	50.7	48.6	50.7	56.0
46.5°	40.3	42.5	47.5	52.0	55.0	52.0	47.5	42.5	40.3	42.5	47.5
47°	33.7	35.0	39.3	43.8	46.4	43.8	39.3	35.0	33.7	35.0	39.3
47.5°	27.5	28.3	32.1	36.0	37.8	36.0	32.1	28.3	27.5	28.3	32.1
48°	21.9	22.7	25.6	29.1	30.9	29.1	25.6	22.7	21.9	22.7	25.6
48.5°	17.6	18.0	20.5	23.1	24.7	23.1	20.5	18.0	17.6	18.0	20.5
49°	13.2	13.7	15.8	18.3	19.2	18.3	15.8	13.7	13.2	13.7	15.8
49.5°	10.0	10.2	11.6	13.8	15.0	13.8	11.6	10.2	10.0	10.2	11.6
50°	7.1	6.9	8.8	10.8	11.4	10.8	8.8	6.9	7.1	6.9	8.8
50.5°	4.4	4.8	6.2	8.1	9.2	8.1	6.2	4.8	4.4	4.8	6.2
51°	2.4	3.2	4.3	5.4	7.0	5.4	4.3	3.2	2.4	3.2	4.3
51.5°	1.9	2.0	2.8	3.5	5.2	3.5	2.8	2.0	1.9	2.0	2.8
52°	1.6	1.7	1.8	2.2	3.4	2.2	1.8	1.7	1.6	1.7	1.8
52.5°	1.3	1.5	1.5	1.7	1.6	1.7	1.5	1.5	1.3	1.5	1.5
53°	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.3	1.3	1.3	1.4
53.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
54°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
54.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
55°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
55.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
56°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
56.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
57°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
57.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58.5°	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7
59°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
59.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
60°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
60.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
61°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
61.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
62°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
62.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
63°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
63.5°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
64°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
64.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
65°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
65.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
66°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3





TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
68°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
68.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
69°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
69.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
70°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
70.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2
71°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1
78°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	555.8	555.8	555.8	555.8	555.8	555.8
0.5°	555.7	555.8	555.7	555.8	555.7	555.7
1°	555.6	555.8	555.6	555.7	555.6	555.6
1.5°	555.5	555.6	555.5	555.5	555.5	555.4
2°	555.3	555.4	555.3	555.3	555.2	555.2
2.5°	555.0	555.1	555.0	555.0	555.0	554.9
3°	554.7	554.8	554.7	554.7	554.6	554.6
3.5°	554.3	554.4	554.3	554.3	554.2	554.2
4°	553.8	554.0	553.8	553.8	553.7	553.7
4.5°	553.3	553.4	553.3	553.2	553.1	553.1
5°	552.7	552.9	552.7	552.6	552.5	552.4
5.5°	552.0	552.2	552.0	551.9	551.8	551.8
6°	551.3	551.5	551.3	551.2	551.0	551.0
6.5°	550.5	550.7	550.5	550.4	550.2	550.1
7°	549.6	549.8	549.6	549.5	549.2	549.2
7.5°	548.6	548.8	548.6	548.5	548.2	548.2
8°	547.6	547.8	547.6	547.4	547.2	547.1
8.5°	546.4	546.6	546.4	546.2	546.0	545.9
9°	545.1	545.3	545.1	544.9	544.6	544.5
9.5°	543.8	544.0	543.8	543.5	543.2	543.1
10°	542.3	542.5	542.3	542.0	541.8	541.7
10.5°	540.8	541.0	540.8	540.5	540.2	540.1
11°	539.1	539.3	539.1	538.9	538.6	538.5
11.5°	537.3	537.6	537.3	537.1	536.8	536.7
12°	535.5	535.7	535.5	535.2	534.9	534.9
12.5°	533.5	533.7	533.5	533.2	532.9	532.9
13°	531.4	531.5	531.4	531.1	530.9	530.8
13.5°	529.1	529.3	529.1	528.9	528.6	528.5
14°	526.7	526.9	526.7	526.5	526.3	526.2
14.5°	524.2	524.4	524.2	524.0	523.8	523.7
15°	521.5	521.6	521.5	521.3	521.1	521.1
15.5°	518.7	518.8	518.7	518.5	518.3	518.3
16°	515.6	515.8	515.6	515.5	515.4	515.3
16.5°	512.5	512.6	512.5	512.4	512.3	512.3
17°	509.2	509.3	509.2	509.1	509.0	509.0
17.5°	505.6	505.7	505.6	505.6	505.5	505.5
18°	501.9	502.0	501.9	501.9	501.9	502.0
18.5°	498.0	498.0	498.0	498.0	498.1	498.1
19°	493.9	493.9	493.9	494.0	494.1	494.1
19.5°	489.6	489.6	489.6	489.7	489.8	489.9
20°	485.1	485.0	485.1	485.3	485.4	485.5
20.5°	480.3	480.2	480.3	480.5	480.7	480.8
21°	475.3	475.1	475.3	475.7	475.9	475.9

TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	459.6	459.6	459.6	459.9	460.1	460.1
23°	454.2	454.2	454.2	454.5	454.6	454.6
23.5°	448.8	448.8	448.8	449.0	449.1	449.0
24°	443.4	443.5	443.4	443.5	443.5	443.4
24.5°	438.0	438.2	438.0	438.1	438.0	438.0
25°	432.7	432.9	432.7	432.7	432.6	432.5
25.5°	427.5	427.7	427.5	427.4	427.3	427.3
26°	422.4	422.6	422.4	422.3	422.2	422.1
26.5°	417.3	417.6	417.3	417.2	417.1	417.0
27°	412.3	412.6	412.3	412.3	412.1	412.1
27.5°	407.6	407.8	407.6	407.4	407.3	407.2
28°	402.8	403.1	402.8	402.7	402.5	402.4
28.5°	398.1	398.4	398.1	398.0	397.9	397.7
29°	393.6	393.9	393.6	393.5	393.4	393.3
29.5°	389.3	389.5	389.3	389.2	389.0	388.9
30°	385.0	385.3	385.0	384.9	384.7	384.7
30.5°	380.9	381.1	380.9	380.7	380.6	380.5
31°	376.9	377.2	376.9	376.8	376.6	376.5
31.5°	372.9	373.1	372.9	372.8	372.8	372.7
32°	368.9	369.1	368.9	369.0	369.0	369.0
32.5°	364.7	364.3	364.7	365.1	365.3	365.4
33°	359.3	358.2	359.3	360.3	361.3	361.5
33.5°	352.7	351.3	352.7	354.4	356.3	357.3
34°	345.2	343.7	345.2	347.4	350.0	351.3
34.5°	337.3	335.8	337.3	339.4	342.3	343.4
35°	328.7	327.3	328.7	330.4	333.0	334.1
35.5°	319.0	317.6	319.0	320.8	323.2	323.8
36°	308.6	307.1	308.6	310.4	312.4	312.9
36.5°	297.3	295.7	297.3	299.2	300.9	301.3
37°	285.6	284.0	285.6	287.0	288.0	288.3
37.5°	273.2	271.9	273.2	274.1	274.5	274.9
38°	260.2	259.6	260.2	260.3	260.1	260.7
38.5°	246.6	247.1	246.6	246.1	245.9	246.8
39°	233.0	234.3	233.0	231.8	231.6	231.9
39.5°	219.2	221.0	219.2	217.7	217.3	217.1
40°	205.5	207.2	205.5	203.5	202.6	201.6
40.5°	192.0	193.5	192.0	189.8	188.1	186.7
41°	178.5	180.0	178.5	176.0	173.2	171.3
41.5°	165.2	166.6	165.2	162.2	158.8	156.8
42°	152.0	153.3	152.0	148.4	144.4	142.6
42.5°	139.1	140.3	139.1	135.5	131.0	128.8
43°	126.3	127.6	126.3	122.5	118.0	115.5
43.5°	113.8	115.6	113.8	109.9	105.4	103.0



TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	79.6	82.1	79.6	75.0	70.4	68.3
45.5°	69.8	72.1	69.8	65.0	60.3	57.8
46°	60.7	63.5	60.7	56.0	50.7	48.6
46.5°	52.0	55.0	52.0	47.5	42.5	40.3
47°	43.8	46.4	43.8	39.3	35.0	33.7
47.5°	36.0	37.8	36.0	32.1	28.3	27.5
48°	29.1	30.9	29.1	25.6	22.7	21.9
48.5°	23.1	24.7	23.1	20.5	18.0	17.6
49°	18.3	19.2	18.3	15.8	13.7	13.2
49.5°	13.8	15.0	13.8	11.6	10.2	10.0
50°	10.8	11.4	10.8	8.8	6.9	7.1
50.5°	8.1	9.2	8.1	6.2	4.8	4.4
51°	5.4	7.0	5.4	4.3	3.2	2.4
51.5°	3.5	5.2	3.5	2.8	2.0	1.9
52°	2.2	3.4	2.2	1.8	1.7	1.6
52.5°	1.7	1.6	1.7	1.5	1.5	1.3
53°	1.4	1.3	1.4	1.4	1.3	1.3
53.5°	1.2	1.2	1.2	1.2	1.2	1.2
54°	1.1	1.1	1.1	1.1	1.1	1.1
54.5°	1.1	1.1	1.1	1.1	1.1	1.1
55°	1.0	1.0	1.0	1.0	1.0	1.0
55.5°	1.0	1.0	1.0	1.0	1.0	1.0
56°	0.9	0.9	0.9	0.9	0.9	0.9
56.5°	0.8	0.8	0.8	0.8	0.8	0.8
57°	0.8	0.8	0.8	0.8	0.8	0.8
57.5°	0.7	0.7	0.7	0.7	0.7	0.7
58°	0.7	0.7	0.7	0.7	0.7	0.7
58.5°	0.7	0.7	0.7	0.7	0.7	0.6
59°	0.6	0.6	0.6	0.6	0.6	0.6
59.5°	0.6	0.6	0.6	0.6	0.6	0.6
60°	0.5	0.5	0.5	0.5	0.5	0.5
60.5°	0.5	0.5	0.5	0.5	0.5	0.5
61°	0.5	0.5	0.5	0.5	0.5	0.5
61.5°	0.4	0.4	0.4	0.4	0.4	0.4
62°	0.4	0.4	0.4	0.4	0.4	0.4
62.5°	0.4	0.4	0.4	0.4	0.4	0.4
63°	0.4	0.4	0.4	0.4	0.4	0.4
63.5°	0.4	0.4	0.4	0.4	0.4	0.3
64°	0.3	0.3	0.3	0.3	0.3	0.3
64.5°	0.3	0.3	0.3	0.3	0.3	0.3
65°	0.3	0.3	0.3	0.3	0.3	0.3
65.5°	0.3	0.3	0.3	0.3	0.3	0.3
66°	0.3	0.3	0.3	0.3	0.3	0.3



TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.2	0.2	0.2	0.2	0.2	0.2
68°	0.2	0.2	0.2	0.2	0.2	0.2
68.5°	0.2	0.2	0.2	0.2	0.2	0.2
69°	0.2	0.2	0.2	0.2	0.2	0.2
69.5°	0.2	0.2	0.2	0.2	0.2	0.2
70°	0.2	0.2	0.2	0.2	0.2	0.2
70.5°	0.2	0.2	0.2	0.2	0.2	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.0
78°	0.1	0.1	0.1	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775855

CATALOG NUMBER: HCDJBL510CSD-HCD82TRMB-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°	470.7	470.6	470.4	470.1	470.0	470.1	470.4	470.6	470.7	470.6	470.4
22°	465.5	465.4	465.2	464.9	464.8	464.9	465.2	465.4	465.5	465.4	465.2



44°	91.0	92.9	97.5	101.6	104.0	101.6	97.5	92.9	91.0	92.9	97.5
44.5°	79.5	81.3	85.9	90.4	92.8	90.4	85.9	81.3	79.5	81.3	85.9



66.5°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3
67°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2



89°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0



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21.5°	470.1	470.0	470.1	470.4	470.6	470.7
22°	464.9	464.8	464.9	465.2	465.4	465.5



44°	101.6	104.0	101.6	97.5	92.9	91.0
44.5°	90.4	92.8	90.4	85.9	81.3	79.5

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66.5°	0.3	0.3	0.3	0.3	0.2	0.2
67°	0.2	0.2	0.2	0.2	0.2	0.2

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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)