

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: P775658

Luminaire Tested: HCDJBS510CSD-HCD42TRMB-1000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775658
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B051)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD42TRMB-1000lm-4000K
Description: 4 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 495.4 lumens
Efficiency: N/A
Efficacy: 49.5 lumens/watt
Spacing Criteria (0/90/45): 0.95 / 0.94 / 0.88
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

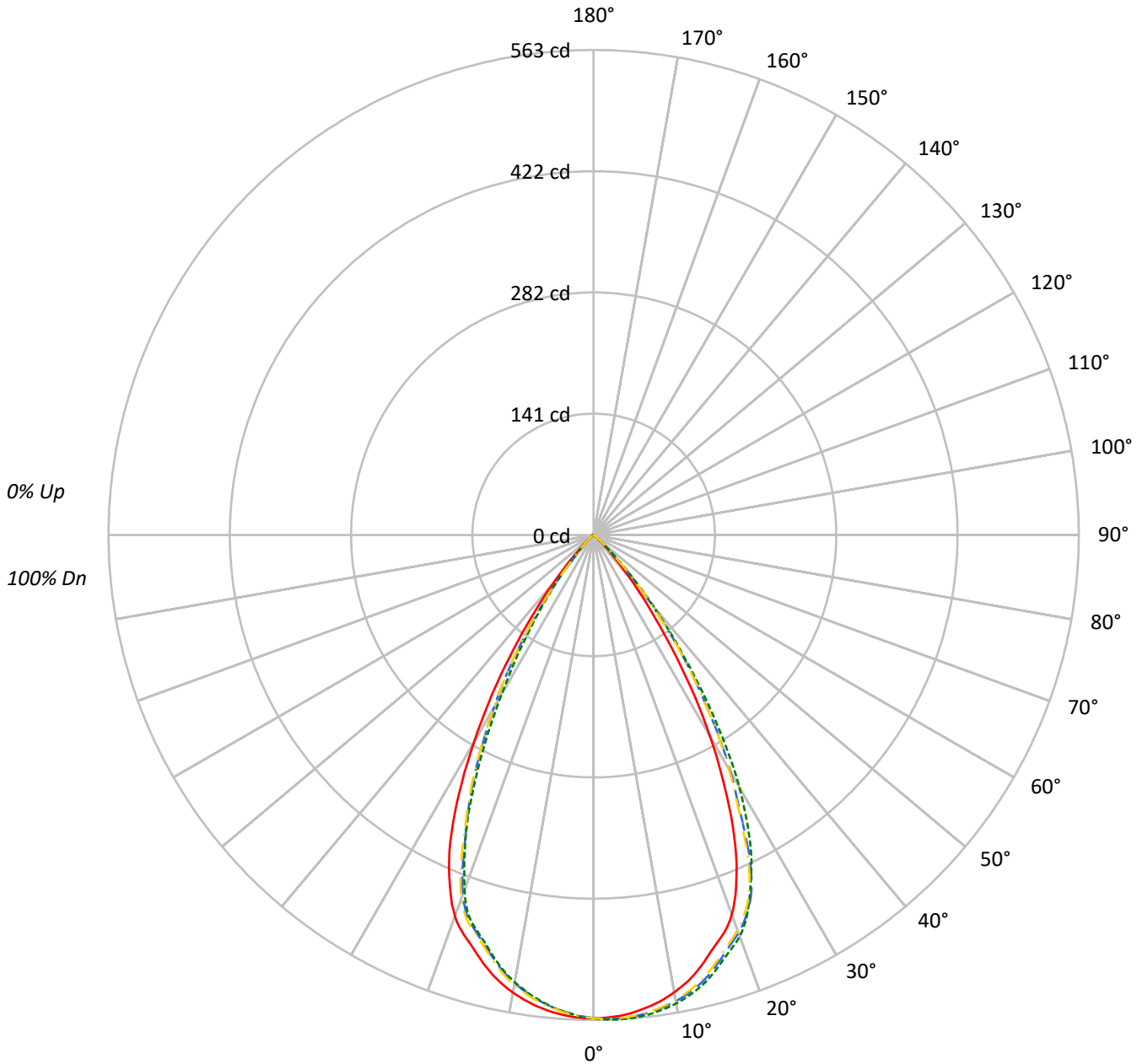
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

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	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94																			
2	108	103	100	96	106	102	98	95	99	96	93	96	93	91	93	91	89	88																			
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	85	83	82																			
4	98	91	85	81	96	89	84	81	87	83	80	85	82	79	83	80	78	76																			
5	93	85	79	75	91	84	79	75	82	78	74	81	77	73	79	76	73	71																			
6	89	80	74	70	87	79	74	70	78	73	69	76	72	69	75	71	68	67																			
7	84	75	69	65	83	74	69	65	73	68	65	72	68	64	71	67	64	63																			
8	80	71	65	61	79	70	65	61	69	64	61	68	64	60	67	63	60	59																			
9	76	67	61	57	75	67	61	57	66	61	57	65	60	57	64	60	57	55																			
10	73	63	58	54	72	63	58	54	62	57	54	61	57	54	61	56	53	52																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	70614	70614	70614	70614
5°	70202	71023	70227	69507
10°	68892	70566	68943	67384
15°	66187	68936	66356	63764
20°	62812	66387	63053	58687
25°	53600	60085	54669	46504
30°	39309	49132	40370	31098
35°	23214	32847	24858	17714
40°	10662	17513	11878	8050
45°	3293	5962	3755	2349
50°	1057	1194	1077	901
55°	636	746	636	549
60°	403	453	428	378
65°	268	268	268	238
70°	184	184	184	147
75°	97	146	97	97
80°	72	72	72	72
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6211 cd/sqm



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.5	10.6
10°-20°	142.8	28.8
20°-30°	173.4	35.0
30°-40°	102.1	20.6
40°-50°	20.6	4.1
50°-60°	2.8	0.6
60°-70°	0.9	0.2
70°-80°	0.3	0.1
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°	368.7	74.4
0°-40°	470.9	95.0
0°-60°	494.2	99.8
0°-90°	495.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	495.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	561	561	561	561	561	
5°	556	562	556	550	556	53
15°	508	529	509	489	508	143
25°	386	433	394	335	386	173
35°	151	214	162	115	151	96
45°	18	34	21	13	18	18
55°	3	3	3	2	3	3
65°	1	1	1	1	1	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	561.1	561.1	561.1	561.1	561.1	561.1	561.1	561.1	561.1	561.1	561.1
0.5°	561.2	561.5	561.2	561.0	562.1	561.7	561.4	561.3	561.2	561.1	560.2
1°	561.0	561.5	561.5	561.4	562.5	562.1	561.7	561.4	561.1	560.7	559.5
1.5°	560.8	561.5	561.8	561.8	562.9	562.4	561.8	561.3	560.8	560.1	558.8
2°	560.3	561.3	561.9	562.0	563.1	562.7	561.9	561.2	560.5	559.6	557.8
2.5°	559.8	561.1	561.9	562.1	563.3	562.8	561.8	561.0	559.9	558.9	556.8
3°	559.2	560.7	561.8	562.2	563.3	562.8	561.7	560.6	559.4	558.0	555.7
3.5°	558.6	560.2	561.7	562.1	563.2	562.5	561.4	560.1	558.7	557.1	554.6
4°	557.7	559.6	561.4	561.9	563.0	562.3	561.1	559.5	557.8	556.0	553.2
4.5°	556.8	559.0	561.1	561.7	562.7	562.0	560.6	558.9	557.0	555.0	551.7
5°	555.7	558.1	560.6	561.3	562.2	561.5	560.0	558.1	555.9	553.7	550.2
5.5°	554.6	557.3	559.9	560.9	561.7	561.0	559.3	557.3	554.8	552.4	548.6
6°	553.3	556.3	559.2	560.2	561.1	560.2	558.5	556.3	553.5	550.9	546.8
6.5°	551.9	555.2	558.4	559.5	560.5	559.5	557.5	555.1	552.2	549.2	544.9
7°	550.6	553.9	557.4	558.7	559.5	558.6	556.6	553.8	550.8	547.5	542.8
7.5°	548.9	552.6	556.4	557.8	558.6	557.5	555.5	552.6	549.2	545.7	540.7
8°	547.2	551.1	555.3	556.8	557.5	556.5	554.2	551.1	547.4	543.8	538.5
8.5°	545.3	549.5	553.9	555.6	556.4	555.2	552.8	549.5	545.7	541.8	536.1
9°	543.4	547.9	552.6	554.4	555.1	553.9	551.3	547.9	543.8	539.6	533.7
9.5°	541.3	546.0	551.1	553.0	553.7	552.5	549.7	546.1	541.7	537.4	531.0
10°	539.1	544.1	549.5	551.5	552.2	551.0	548.1	544.2	539.5	534.8	528.2
10.5°	536.7	542.0	547.9	550.0	550.6	549.2	546.3	542.1	537.2	532.3	525.4
11°	534.4	539.9	546.0	548.2	548.8	547.4	544.3	539.9	534.8	529.6	522.4
11.5°	531.8	537.6	544.0	546.4	546.9	545.4	542.2	537.6	532.2	526.8	519.0
12°	529.0	535.1	541.9	544.5	544.9	543.4	540.0	535.2	529.5	523.7	515.5
12.5°	525.9	532.3	539.7	542.3	542.8	541.1	537.6	532.5	526.6	520.5	511.9
13°	522.7	529.6	537.2	540.1	540.4	538.8	535.1	529.8	523.5	517.1	508.0
13.5°	519.2	526.4	534.7	537.7	537.9	536.2	532.3	526.8	520.1	513.5	504.0
14°	515.6	523.3	532.0	535.1	535.3	533.5	529.4	523.6	516.7	509.7	499.7
14.5°	511.9	519.8	529.1	532.2	532.2	530.3	526.3	520.3	513.1	505.7	495.6
15°	508.0	516.2	525.9	529.2	529.1	527.3	523.0	516.8	509.3	501.7	491.5
15.5°	504.1	512.4	522.6	525.9	525.9	523.9	519.5	513.1	505.5	497.7	487.8
16°	500.4	508.7	519.0	522.6	522.5	520.5	515.9	509.3	501.6	493.8	484.3
16.5°	497.1	505.0	515.3	519.0	518.8	516.9	512.3	505.7	498.0	490.2	480.7
17°	493.6	501.7	511.6	515.5	515.3	513.3	508.6	502.1	494.5	486.9	477.1
17.5°	490.3	498.3	508.2	512.0	512.0	510.0	505.1	498.7	491.2	483.4	473.5
18°	487.0	495.1	504.7	508.7	508.9	506.7	502.0	495.4	487.7	479.8	469.4
18.5°	483.4	491.6	501.5	505.6	505.7	503.6	498.5	491.8	484.1	476.1	464.5
19°	479.2	488.2	498.1	502.3	502.5	500.3	495.2	488.6	480.3	471.7	458.6
19.5°	474.4	484.5	494.9	498.9	499.4	497.1	491.8	484.8	475.9	466.4	451.9
20°	469.0	480.2	491.4	495.8	495.7	493.5	488.2	480.8	470.8	460.4	444.1
20.5°	462.8	475.3	487.8	492.1	491.5	489.5	484.4	476.4	465.0	453.8	435.2
21°	456.1	470.2	483.8	488.0	486.7	484.9	480.2	471.4	459.0	446.4	425.1



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	432.9	450.8	469.8	472.7	469.1	468.4	465.2	453.7	437.0	419.6	392.2
23°	424.5	443.1	464.0	466.6	462.2	461.7	459.3	446.7	429.4	409.5	381.4
23.5°	415.9	435.0	457.6	459.8	454.8	454.4	452.3	438.8	421.1	399.0	370.7
24°	406.4	426.4	450.5	452.2	447.4	447.1	444.8	430.5	412.5	388.4	360.6
24.5°	396.4	417.3	442.4	444.5	440.2	439.0	436.1	421.9	403.3	377.8	350.4
25°	386.0	407.8	432.8	436.1	432.7	431.0	426.8	412.7	393.7	367.8	340.3
25.5°	375.0	397.8	422.6	427.9	425.3	423.1	416.2	402.8	383.2	357.8	330.0
26°	363.8	386.9	411.0	419.1	417.4	414.9	404.7	392.3	372.4	348.0	319.5
26.5°	352.1	375.1	398.6	410.1	409.0	405.7	392.4	381.2	361.0	337.9	308.7
27°	340.5	362.9	385.7	400.3	400.1	396.3	380.6	369.4	349.8	327.8	297.5
27.5°	328.9	350.1	373.0	390.4	390.1	386.3	368.5	357.2	337.9	317.5	285.9
28°	317.5	337.0	360.6	379.4	379.9	376.0	356.9	344.0	326.0	306.9	274.5
28.5°	305.9	324.0	349.1	368.2	369.3	364.7	345.6	331.4	314.5	296.0	263.2
29°	294.1	311.2	338.1	356.2	359.1	353.1	335.4	319.1	302.2	284.5	252.5
29.5°	282.3	298.2	327.7	344.0	348.7	341.0	324.8	307.0	289.9	272.4	241.9
30°	270.5	286.1	317.2	331.5	338.1	329.0	314.4	295.3	277.8	260.5	231.4
30.5°	258.6	273.6	306.7	319.7	326.7	317.0	303.9	283.6	266.1	248.4	221.2
31°	246.2	261.6	295.4	307.9	315.3	305.4	293.1	272.0	253.9	236.7	211.0
31.5°	234.0	249.5	284.0	296.3	302.8	293.9	281.5	260.5	241.9	225.0	200.7
32°	221.8	237.7	272.0	285.1	290.2	282.6	269.7	248.8	230.1	213.9	190.3
32.5°	209.5	226.3	259.9	274.2	277.3	271.1	257.9	237.0	218.6	203.0	179.3
33°	197.2	214.9	247.5	263.1	264.4	260.0	246.0	224.8	206.8	192.3	168.4
33.5°	185.0	203.6	235.5	251.9	251.7	248.3	234.3	213.2	195.2	181.5	157.8
34°	173.2	192.9	224.2	240.4	239.0	237.0	223.1	201.9	183.9	170.4	147.6
34.5°	161.8	182.1	213.4	229.0	226.4	225.1	212.7	190.9	172.9	159.4	137.3
35°	151.1	171.5	202.5	217.1	213.8	213.6	201.9	180.3	161.8	148.4	127.5
35.5°	140.8	161.4	192.2	205.4	201.6	202.3	191.6	170.0	151.3	137.7	118.1
36°	130.9	152.0	181.9	193.7	189.8	191.0	181.0	160.4	141.2	127.1	108.9
36.5°	121.1	142.5	171.6	182.7	178.0	179.6	170.3	150.8	131.4	117.0	99.9
37°	111.9	133.0	161.0	171.8	166.8	168.3	159.4	141.5	121.4	107.3	90.9
37.5°	103.2	123.8	150.6	161.3	156.1	157.3	148.6	132.1	112.5	98.8	81.9
38°	94.7	114.6	140.0	150.9	145.7	146.6	138.0	123.1	103.8	90.4	72.9
38.5°	86.5	105.6	129.8	140.3	135.6	135.9	127.7	114.1	95.9	81.9	64.7
39°	78.9	96.8	120.3	130.4	125.7	125.7	117.7	105.2	88.1	73.5	57.0
39.5°	71.7	88.3	111.0	120.4	116.1	115.7	108.3	96.8	80.2	66.5	50.0
40°	64.9	80.2	102.5	110.5	106.6	106.1	100.0	88.5	72.3	59.4	43.8
40.5°	58.5	72.4	94.0	100.9	98.1	97.1	91.7	80.2	65.3	52.9	38.3
41°	52.4	65.1	86.1	91.3	89.6	88.2	83.4	71.9	58.9	46.8	33.6
41.5°	46.9	58.4	78.2	82.4	81.1	79.2	75.1	64.5	52.7	41.1	29.5
42°	41.8	52.1	70.4	73.9	72.6	70.2	66.9	57.7	47.0	36.0	26.1
42.5°	37.0	46.2	62.9	66.0	65.4	62.4	59.3	51.1	41.8	31.6	23.2
43°	33.3	40.6	55.3	58.6	58.1	55.1	52.0	45.0	36.9	27.6	20.4
43.5°	29.6	36.0	48.3	51.6	51.6	48.4	45.1	39.6	32.4	24.1	17.9



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	18.5	23.7	31.4	34.9	33.5	31.5	28.4	25.4	21.1	16.0	12.0
45.5°	15.8	19.7	27.1	30.6	28.3	27.0	24.0	21.7	18.1	13.7	10.7
46°	13.4	16.7	22.9	26.3	23.9	22.9	20.4	18.3	15.2	11.8	9.6
46.5°	11.2	14.0	18.6	22.0	19.9	19.3	17.1	15.4	12.8	10.6	8.3
47°	9.4	11.5	15.6	17.8	16.5	16.1	14.3	12.8	11.4	9.3	7.1
47.5°	7.9	9.6	12.9	14.8	13.5	13.3	12.9	11.4	10.1	8.2	5.9
48°	6.8	7.9	10.7	12.2	12.1	11.9	11.5	10.1	8.7	7.0	5.5
48.5°	6.2	6.8	8.8	9.9	10.5	10.5	10.2	8.8	7.3	5.9	5.2
49°	5.9	6.2	7.5	8.1	9.0	9.0	8.8	7.5	6.0	5.6	5.0
49.5°	5.6	5.9	6.6	6.9	7.6	7.6	7.3	6.2	5.7	5.2	4.8
50°	5.4	5.6	6.1	6.3	6.1	6.2	6.0	5.8	5.5	5.0	4.5
50.5°	5.0	5.4	5.8	5.9	5.8	5.9	5.8	5.6	5.1	4.8	4.3
51°	4.8	5.0	5.6	5.7	5.6	5.6	5.5	5.2	4.9	4.5	4.0
51.5°	4.5	4.8	5.2	5.4	5.2	5.2	5.1	4.9	4.6	4.3	3.8
52°	4.3	4.5	5.0	5.1	5.0	5.0	4.9	4.6	4.3	4.0	3.6
52.5°	4.0	4.2	4.7	4.8	4.7	4.7	4.6	4.4	4.1	3.8	3.4
53°	3.8	4.0	4.4	4.5	4.4	4.4	4.3	4.1	3.8	3.6	3.1
53.5°	3.6	3.7	4.1	4.2	4.1	4.1	4.0	3.9	3.6	3.4	2.9
54°	3.4	3.5	3.9	4.0	3.9	3.9	3.8	3.6	3.4	3.1	2.8
54.5°	3.1	3.3	3.7	3.8	3.6	3.6	3.6	3.4	3.1	2.9	2.6
55°	2.9	3.1	3.4	3.5	3.4	3.4	3.4	3.1	2.9	2.8	2.5
55.5°	2.7	2.9	3.1	3.3	3.1	3.1	3.1	2.9	2.8	2.6	2.3
56°	2.6	2.7	2.9	3.0	2.9	2.9	2.9	2.8	2.6	2.5	2.2
56.5°	2.4	2.5	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3	2.1
57°	2.3	2.4	2.6	2.7	2.6	2.6	2.6	2.5	2.3	2.2	2.0
57.5°	2.1	2.2	2.4	2.5	2.4	2.4	2.4	2.3	2.2	2.1	1.9
58°	2.0	2.1	2.3	2.4	2.3	2.3	2.3	2.2	2.1	2.0	1.8
58.5°	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.1	2.0	1.9	1.7
59°	1.8	1.9	2.0	2.1	2.0	2.0	2.0	2.0	1.9	1.8	1.6
59.5°	1.7	1.8	1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.5
60°	1.6	1.7	1.8	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.4
60.5°	1.5	1.6	1.7	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.4
61°	1.5	1.5	1.6	1.7	1.6	1.6	1.6	1.6	1.5	1.4	1.3
61.5°	1.4	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.2
62°	1.3	1.3	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2
62.5°	1.2	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.0
63°	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.0
63.5°	1.0	1.0	1.2	1.3	1.2	1.2	1.2	1.2	1.0	1.0	0.9
64°	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.0	1.0	0.9	0.9
64.5°	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
65°	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8
65.5°	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
66°	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
68°	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
68.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5
69°	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
69.5°	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
70.5°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
71°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
72.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
73°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75.5°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
82.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
83°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	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: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	561.1	561.1	561.1	561.1	561.1	561.1
0.5°	559.7	560.9	560.6	560.6	560.8	561.2
1°	558.9	560.1	559.9	559.9	560.5	561.0
1.5°	558.0	559.3	559.1	559.3	559.9	560.8
2°	557.0	558.2	558.1	558.5	559.3	560.3
2.5°	555.8	557.2	557.1	557.5	558.6	559.8
3°	554.7	556.0	555.9	556.6	557.7	559.2
3.5°	553.3	554.7	554.7	555.4	556.9	558.6
4°	551.8	553.3	553.3	554.2	555.7	557.7
4.5°	550.4	551.7	551.8	552.8	554.6	556.8
5°	548.6	550.2	550.3	551.4	553.3	555.7
5.5°	546.9	548.4	548.5	549.8	552.1	554.6
6°	544.9	546.5	546.7	548.2	550.5	553.3
6.5°	543.0	544.5	544.8	546.3	548.9	551.9
7°	540.8	542.4	542.7	544.5	547.2	550.6
7.5°	538.5	540.2	540.6	542.4	545.3	548.9
8°	536.2	537.8	538.3	540.2	543.4	547.2
8.5°	533.7	535.4	535.9	537.9	541.3	545.3
9°	531.1	532.7	533.4	535.6	539.1	543.4
9.5°	528.4	530.1	530.7	533.0	536.8	541.3
10°	525.5	527.3	527.9	530.4	534.4	539.1
10.5°	522.6	524.2	525.0	527.6	531.8	536.7
11°	519.2	521.1	521.9	524.6	529.0	534.4
11.5°	515.8	517.6	518.5	521.3	526.0	531.8
12°	512.3	514.2	514.9	517.9	522.9	529.0
12.5°	508.4	510.3	511.0	514.1	519.4	525.9
13°	504.4	506.2	506.9	510.3	515.9	522.7
13.5°	500.2	502.1	502.9	506.3	512.1	519.2
14°	495.8	497.8	498.6	502.1	508.2	515.6
14.5°	491.6	493.5	494.3	498.0	504.1	511.9
15°	487.7	489.4	490.2	493.7	500.1	508.0
15.5°	484.0	485.6	486.6	489.9	496.1	504.1
16°	480.4	482.1	483.0	486.4	492.5	500.4
16.5°	476.7	478.5	479.3	482.9	489.2	497.1
17°	473.1	474.9	475.8	479.4	485.8	493.6
17.5°	469.2	471.1	472.1	476.0	482.4	490.3
18°	464.2	466.8	467.9	472.2	478.9	487.0
18.5°	458.5	461.1	462.4	467.8	474.9	483.4
19°	452.0	454.7	456.5	462.4	470.2	479.2
19.5°	444.6	447.0	449.4	456.2	464.7	474.4
20°	436.2	438.2	441.4	448.8	458.4	469.0
20.5°	427.1	428.8	432.5	440.6	451.1	462.8
21°	417.4	419.1	423.0	431.3	442.9	456.1



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	384.7	390.0	391.3	398.7	413.6	432.9
23°	373.2	380.4	380.4	387.3	402.6	424.5
23.5°	361.7	369.9	369.2	375.9	392.1	415.9
24°	350.6	358.8	357.6	364.7	381.6	406.4
24.5°	339.2	347.2	345.9	354.2	371.5	396.4
25°	328.1	334.9	334.5	343.3	361.8	386.0
25.5°	317.3	322.9	322.9	332.8	352.0	375.0
26°	306.6	310.5	311.1	322.2	342.0	363.8
26.5°	295.4	298.5	299.4	311.8	331.9	352.1
27°	284.4	285.9	288.1	300.7	321.2	340.5
27.5°	273.2	273.6	276.8	289.5	310.0	328.9
28°	262.3	261.5	265.3	277.8	298.1	317.5
28.5°	251.2	249.3	254.5	266.2	286.1	305.9
29°	240.0	236.9	243.2	254.6	273.4	294.1
29.5°	228.9	225.3	232.2	243.7	261.8	282.3
30°	217.9	214.0	220.8	232.6	249.6	270.5
30.5°	206.7	202.8	209.6	221.8	238.2	258.6
31°	195.7	192.1	197.7	211.1	226.9	246.2
31.5°	184.7	182.0	186.4	201.0	215.9	234.0
32°	174.1	171.9	175.6	190.8	205.0	221.8
32.5°	163.5	162.2	165.2	180.6	194.6	209.5
33°	153.5	152.3	155.2	170.0	183.8	197.2
33.5°	143.6	142.3	145.7	159.6	172.8	185.0
34°	134.0	133.0	136.2	149.3	161.5	173.2
34.5°	124.9	123.9	127.2	139.0	150.7	161.8
35°	115.9	115.3	118.2	129.0	139.7	151.1
35.5°	107.1	107.2	109.9	119.3	129.0	140.8
36°	99.4	99.7	101.5	110.0	118.7	130.9
36.5°	91.8	92.3	93.4	101.0	108.9	121.1
37°	84.2	85.3	85.7	92.1	99.7	111.9
37.5°	76.6	78.5	78.5	83.5	90.9	103.2
38°	69.0	71.8	71.8	75.1	82.5	94.7
38.5°	62.8	65.6	65.3	67.2	74.4	86.5
39°	56.6	59.7	59.3	59.7	66.9	78.9
39.5°	50.8	54.2	53.6	52.7	59.7	71.7
40°	45.2	49.0	48.3	46.1	52.7	64.9
40.5°	40.4	44.0	43.1	40.4	46.5	58.5
41°	35.6	39.5	38.3	35.8	40.7	52.4
41.5°	31.4	35.7	34.6	32.2	35.7	46.9
42°	27.5	32.0	31.0	28.7	32.1	41.8
42.5°	24.1	28.3	27.4	25.2	28.5	37.0
43°	21.1	24.7	23.7	21.6	25.0	33.3
43.5°	18.4	21.0	20.0	19.1	21.4	29.6



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	12.2	13.2	12.8	12.8	14.3	18.5
45.5°	10.7	11.1	10.8	11.1	12.5	15.8
46°	9.1	9.2	9.2	9.6	10.7	13.4
46.5°	7.7	7.7	7.8	8.2	9.1	11.2
47°	6.2	6.6	6.6	7.0	7.8	9.4
47.5°	5.7	6.0	6.0	6.3	6.8	7.9
48°	5.4	5.6	5.7	5.9	6.2	6.8
48.5°	5.1	5.4	5.4	5.6	5.8	6.2
49°	4.9	5.1	5.1	5.4	5.6	5.9
49.5°	4.6	4.8	4.9	5.0	5.4	5.6
50°	4.4	4.6	4.6	4.8	5.0	5.4
50.5°	4.1	4.3	4.4	4.5	4.8	5.0
51°	3.9	4.1	4.1	4.3	4.5	4.8
51.5°	3.7	3.9	3.9	4.0	4.3	4.5
52°	3.5	3.6	3.7	3.8	4.0	4.3
52.5°	3.3	3.4	3.5	3.6	3.8	4.0
53°	3.0	3.1	3.3	3.4	3.6	3.8
53.5°	2.9	3.0	3.0	3.1	3.4	3.6
54°	2.7	2.8	2.8	3.0	3.1	3.4
54.5°	2.6	2.6	2.7	2.8	2.9	3.1
55°	2.4	2.5	2.5	2.6	2.8	2.9
55.5°	2.3	2.4	2.4	2.5	2.6	2.7
56°	2.2	2.2	2.3	2.4	2.5	2.6
56.5°	2.0	2.1	2.1	2.2	2.3	2.4
57°	1.9	2.0	2.0	2.1	2.2	2.3
57.5°	1.8	1.9	1.9	2.0	2.1	2.1
58°	1.7	1.8	1.8	1.9	2.0	2.0
58.5°	1.7	1.7	1.7	1.8	1.9	1.9
59°	1.6	1.6	1.6	1.7	1.8	1.8
59.5°	1.5	1.5	1.6	1.6	1.7	1.7
60°	1.4	1.5	1.5	1.5	1.6	1.6
60.5°	1.3	1.4	1.4	1.4	1.5	1.5
61°	1.3	1.3	1.3	1.4	1.4	1.5
61.5°	1.2	1.2	1.3	1.3	1.3	1.4
62°	1.2	1.2	1.2	1.2	1.3	1.3
62.5°	1.0	1.0	1.0	1.2	1.2	1.2
63°	0.9	1.0	1.0	1.0	1.0	1.2
63.5°	0.9	0.9	0.9	1.0	1.0	1.0
64°	0.8	0.9	0.9	0.9	0.9	1.0
64.5°	0.8	0.8	0.8	0.8	0.9	0.9
65°	0.8	0.8	0.8	0.8	0.8	0.9
65.5°	0.7	0.7	0.7	0.8	0.8	0.8
66°	0.7	0.7	0.7	0.7	0.7	0.8



TEST NUMBER: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.6	0.6	0.6	0.6	0.6	0.6
68°	0.5	0.6	0.6	0.6	0.6	0.6
68.5°	0.5	0.5	0.5	0.5	0.5	0.6
69°	0.5	0.5	0.5	0.5	0.5	0.5
69.5°	0.4	0.5	0.5	0.5	0.5	0.5
70°	0.4	0.4	0.4	0.4	0.5	0.5
70.5°	0.4	0.4	0.4	0.4	0.4	0.4
71°	0.4	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.4	0.4	0.4	0.4
72°	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.2	0.2	0.2	0.2	0.2	0.2
75°	0.2	0.2	0.2	0.2	0.2	0.2
75.5°	0.2	0.2	0.2	0.2	0.2	0.2
76°	0.2	0.2	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.2	0.2	0.2	0.2
77.5°	0.1	0.2	0.2	0.2	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.1	0.1	0.1	0.1	0.0	0.0
82°	0.1	0.1	0.1	0.1	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: P775658

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMB-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

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





21.5°	448.8	464.3	479.5	483.3	481.4	480.0	475.5	466.1	452.0	438.1	414.5
22°	440.9	457.8	474.7	478.4	475.5	474.4	470.7	460.3	444.7	429.2	403.3



44°	25.9	31.9	41.7	45.2	45.0	42.1	38.9	34.3	28.2	21.1	15.8
44.5°	22.1	27.8	35.7	39.3	39.0	36.5	33.4	29.6	24.5	18.4	13.9



66.5°	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
67°	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6



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

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





21.5°	407.1	409.3	412.9	421.0	433.9	448.8
22°	396.3	399.5	402.3	410.2	423.9	440.9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



44°	16.0	18.2	17.3	16.8	18.8	25.9
44.5°	13.6	15.6	15.0	14.8	16.5	22.1

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



66.5°	0.6	0.7	0.7	0.7	0.7	0.7
67°	0.6	0.6	0.6	0.6	0.7	0.7

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)