

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: P775712

Luminaire Tested: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775712
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-HCD4TSQMW-1000lm-3500K
Description: 4 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

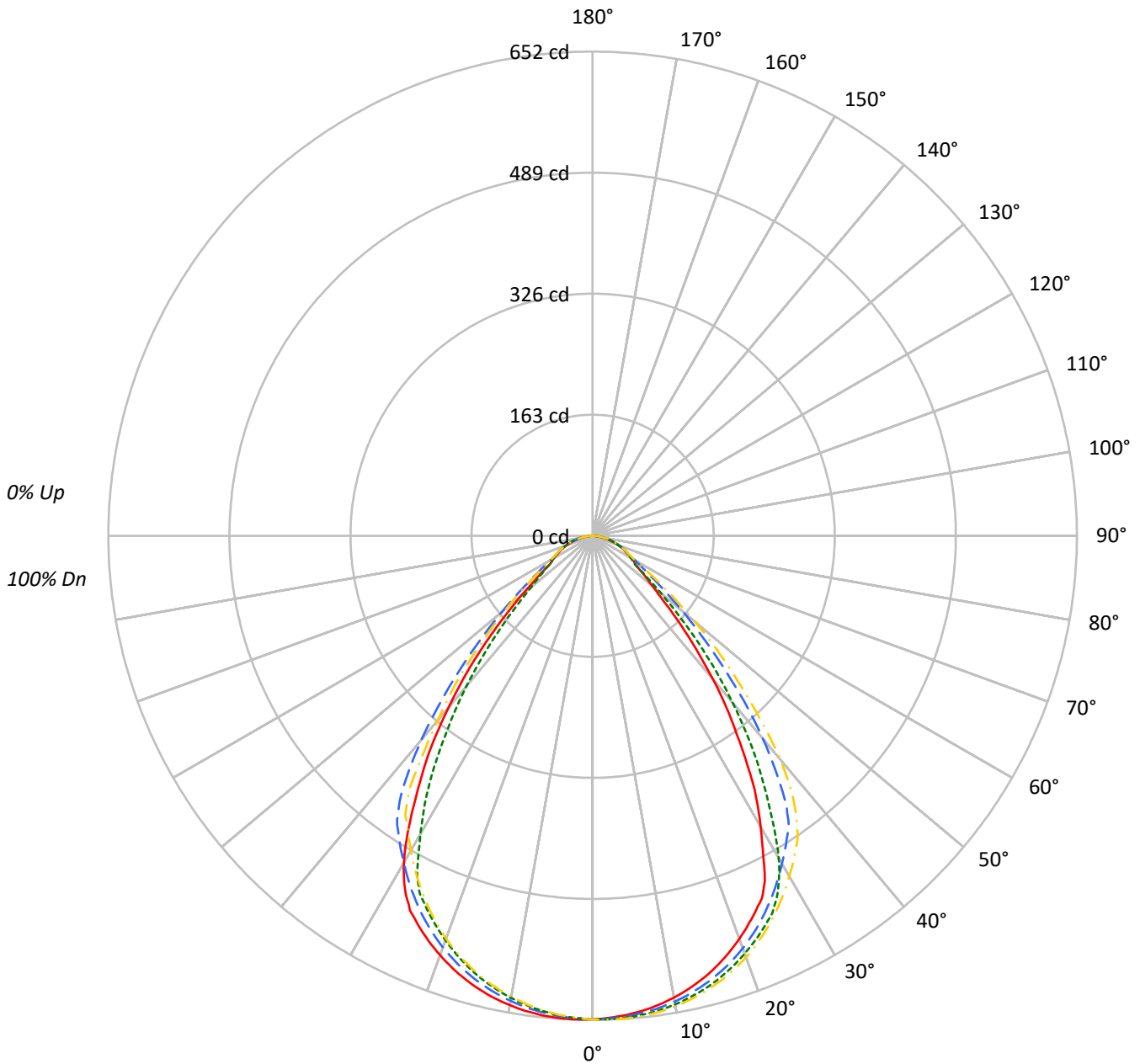
Lumens per Lamp: N/A
Luminaire Lumens: 1076.6 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.13 / 1.17
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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: P775712
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

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	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	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	88	101	96	91	86	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	61	82	72	65	60	70	64	60	69	63	59	67	62	58	57					57			
6	79	67	60	55	77	67	59	54	65	59	54	63	58	53	62	57	53	51					51			
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47					47			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43					43			
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39					39			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	41	38	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	64346	64346	64346	64346
5°	64007	64453	64513	64036
10°	63372	64315	64426	63442
15°	62339	63853	64027	62451
20°	60745	62975	63206	60966
25°	58794	61772	61946	59034
30°	51634	57169	58025	52912
35°	42365	47916	48953	43970
40°	32490	37780	38915	34090
45°	22841	27412	28516	24322
50°	16161	18360	19298	16730
55°	12787	12632	13373	13045
60°	11980	11624	11822	11960
65°	11296	11156	11226	11554
70°	10433	10693	10577	11213
75°	9395	10120	9738	10808
80°	7457	9392	8424	10132
85°	3629	7598	5103	8959

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 38566 cd/sqm



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.5	5.7
10°-20°	173.9	16.2
20°-30°	253.5	23.5
30°-40°	255.0	23.7
40°-50°	167.2	15.5
50°-60°	81.0	7.5
60°-70°	49.2	4.6
70°-80°	28.3	2.6
80°-90°	7.1	0.7
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°	488.8	45.4
0°-40°	743.8	69.1
0°-60°	991.9	92.1
0°-90°	1076.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1076.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	651	651	651	651	651	
5°	645	650	650	645	645	61
15°	609	624	626	610	609	171
25°	539	566	568	541	539	243
35°	351	397	406	364	351	219
45°	163	196	204	174	163	129
55°	74	73	78	76	74	69
65°	48	48	48	49	48	48
75°	25	26	26	28	25	26
85°	3	7	4	8	3	5
90°	0	0	0	0	0	



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
0.5°	650.9	650.7	650.8	650.8	651.2	651.3	651.6	651.7	651.4	651.0	650.7
1°	650.6	650.4	650.7	650.9	651.3	651.6	651.8	651.9	651.6	651.0	650.6
1.5°	650.1	650.1	650.6	650.9	651.3	651.7	652.0	652.0	651.7	651.0	650.4
2°	649.6	649.7	650.4	650.9	651.3	651.7	652.0	652.0	651.7	650.9	650.1
2.5°	649.1	649.3	650.1	650.7	651.2	651.7	652.0	652.0	651.7	650.8	649.8
3°	648.3	648.6	649.7	650.5	650.9	651.6	651.9	652.0	651.4	650.6	649.4
3.5°	647.7	648.0	649.3	650.3	650.7	651.3	651.8	651.8	651.2	650.3	648.9
4°	647.0	647.4	648.8	650.0	650.4	651.1	651.6	651.7	651.0	649.9	648.4
4.5°	646.1	646.6	648.1	649.6	650.1	650.7	651.3	651.3	650.7	649.5	647.8
5°	645.1	645.7	647.4	649.1	649.6	650.4	650.9	650.9	650.2	649.0	647.0
5.5°	644.2	644.8	646.7	648.5	649.1	649.9	650.5	650.5	649.8	648.4	646.3
6°	643.2	643.9	646.0	647.9	648.4	649.3	650.0	650.0	649.2	647.7	645.4
6.5°	642.0	642.8	645.1	647.3	647.7	648.8	649.4	649.4	648.4	647.0	644.5
7°	640.7	641.6	644.2	646.6	646.9	648.0	648.8	648.8	647.8	646.3	643.5
7.5°	639.3	640.4	643.2	645.7	646.1	647.3	648.0	647.9	647.0	645.3	642.4
8°	638.0	639.1	641.9	644.8	645.1	646.5	647.2	647.1	646.2	644.4	641.3
8.5°	636.4	637.6	640.9	643.9	644.2	645.5	646.3	646.3	645.2	643.4	640.0
9°	634.9	636.1	639.6	642.8	643.2	644.6	645.3	645.3	644.2	642.3	638.8
9.5°	633.2	634.6	638.3	641.6	642.0	643.6	644.3	644.2	643.1	641.1	637.5
10°	631.4	633.0	636.8	640.5	640.8	642.3	643.3	643.2	641.9	639.8	636.0
10.5°	629.6	631.2	635.4	639.1	639.4	641.1	642.0	641.9	640.7	638.6	634.5
11°	627.7	629.4	633.8	637.8	638.1	639.7	640.8	640.7	639.4	637.1	632.8
11.5°	625.7	627.5	632.2	636.3	636.5	638.4	639.4	639.2	638.0	635.7	631.1
12°	623.6	625.5	630.4	634.8	635.0	637.0	638.1	637.8	636.4	634.1	629.4
12.5°	621.4	623.5	628.5	633.1	633.3	635.5	636.5	636.2	634.9	632.5	627.5
13°	619.1	621.4	626.7	631.6	631.7	633.7	635.0	634.7	633.2	630.8	625.6
13.5°	616.8	619.1	624.8	629.7	629.9	632.2	633.3	632.9	631.4	629.0	623.6
14°	614.5	616.7	622.6	627.9	628.0	630.3	631.6	631.1	629.6	627.0	621.5
14.5°	611.9	614.2	620.6	626.0	626.1	628.3	629.7	629.4	627.7	625.0	619.3
15°	609.2	611.8	618.3	624.0	624.0	626.5	627.8	627.3	625.7	623.1	617.0
15.5°	606.4	609.2	616.0	621.9	621.9	624.5	625.9	625.3	623.6	620.9	614.7
16°	603.6	606.5	613.5	619.7	619.6	622.2	623.8	623.2	621.4	618.7	612.3
16.5°	600.6	603.7	611.0	617.4	617.3	620.1	621.6	621.0	619.1	616.3	609.7
17°	597.6	600.8	608.5	615.1	614.9	617.7	619.3	618.8	616.8	613.9	607.1
17.5°	594.4	597.8	605.9	612.7	612.4	615.4	616.9	616.4	614.2	611.5	604.4
18°	591.2	594.8	603.1	610.1	609.8	612.9	614.5	613.8	611.7	608.9	601.6
18.5°	587.8	591.5	600.3	607.5	607.2	610.2	612.0	611.2	609.2	606.3	598.7
19°	584.5	588.2	597.3	604.9	604.4	607.4	609.4	608.5	606.5	603.5	595.8
19.5°	581.0	584.8	594.2	602.0	601.6	604.9	606.7	605.8	603.8	600.6	592.8
20°	577.5	581.5	591.1	599.1	598.7	601.9	603.8	603.1	600.9	597.7	589.6
20.5°	573.9	578.0	587.8	596.1	595.7	599.0	601.0	600.1	597.9	594.7	586.3
21°	570.3	574.4	584.5	593.1	592.6	596.0	598.0	597.0	594.9	591.7	583.1



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	558.7	563.2	574.0	583.4	583.2	586.6	588.4	587.7	585.4	581.9	572.6
23°	554.8	559.3	570.2	580.2	579.7	583.3	585.1	584.4	582.1	578.5	568.9
23.5°	550.8	555.3	566.4	576.7	576.3	580.0	581.7	581.0	578.9	575.0	565.0
24°	546.6	551.2	562.5	573.2	572.9	576.5	578.2	577.6	575.5	571.5	561.2
24.5°	543.0	547.3	558.6	569.7	569.4	573.0	574.5	574.0	571.9	567.9	557.3
25°	539.1	543.2	554.5	566.0	566.4	569.5	570.7	570.4	568.0	564.3	553.1
25.5°	532.9	539.0	550.3	562.2	562.2	565.9	567.0	566.9	564.5	560.6	549.1
26°	526.1	535.0	546.1	558.5	556.6	562.0	563.1	563.2	561.0	556.7	544.7
26.5°	519.6	531.1	541.8	554.7	551.9	558.4	559.1	559.2	554.7	552.8	540.5
27°	510.0	526.3	537.5	550.6	546.4	555.0	555.1	555.3	549.8	548.7	536.1
27.5°	499.9	518.8	533.0	547.1	540.2	550.2	551.0	551.7	544.4	544.9	531.7
28°	489.8	512.8	528.5	543.2	533.2	544.5	546.7	546.5	538.2	540.3	527.1
28.5°	480.1	504.6	523.9	537.3	526.1	539.7	542.5	540.5	531.6	534.2	522.6
29°	470.6	494.9	519.3	532.0	518.3	533.8	538.3	535.7	524.3	529.1	517.9
29.5°	461.5	485.0	514.8	526.7	510.0	527.4	533.9	529.9	516.6	523.5	513.3
30°	452.4	475.2	510.0	520.6	500.9	520.7	529.5	523.4	508.4	517.2	508.6
30.5°	443.5	465.6	505.3	513.9	491.1	513.5	525.1	516.6	499.5	510.3	503.8
31°	434.6	456.1	500.6	506.7	481.1	505.7	520.7	509.5	490.0	503.3	499.0
31.5°	425.5	447.2	495.7	499.3	470.5	497.8	516.1	501.7	479.6	495.6	494.3
32°	415.5	438.2	491.0	491.4	459.9	489.1	511.5	493.4	469.0	487.6	489.4
32.5°	405.9	429.5	486.1	483.0	449.0	479.5	506.9	484.8	458.3	478.8	484.4
33°	395.4	420.5	481.5	473.6	438.2	469.7	502.1	475.4	447.6	469.7	479.5
33.5°	384.4	411.5	477.1	464.5	427.6	459.4	497.7	465.6	436.6	459.9	474.7
34°	372.9	401.8	472.5	454.6	417.3	449.0	493.2	455.3	425.9	449.8	470.4
34.5°	362.1	392.1	465.2	444.1	407.1	438.5	487.4	444.7	415.6	439.4	464.9
35°	351.1	381.9	457.1	433.6	397.1	428.0	480.0	434.0	405.7	428.7	456.7
35.5°	340.6	371.3	450.0	423.3	387.1	417.7	473.4	423.8	395.9	418.3	449.3
36°	330.2	360.3	441.1	413.0	377.2	407.6	466.9	413.4	385.9	408.2	442.4
36.5°	320.5	349.4	430.9	402.9	367.0	397.6	459.0	403.3	375.6	398.0	433.3
37°	310.6	338.7	420.6	392.6	356.7	387.6	450.9	393.2	365.9	388.0	423.1
37.5°	301.1	328.9	409.8	382.9	346.1	378.1	442.3	383.6	355.4	378.5	412.7
38°	291.6	318.5	399.2	373.1	335.3	368.1	433.2	373.8	344.7	368.8	402.1
38.5°	281.9	309.0	388.6	363.5	324.6	358.3	424.0	364.3	333.8	359.3	391.2
39°	272.0	299.6	378.1	353.9	314.2	348.5	413.9	354.3	323.0	349.7	380.5
39.5°	261.9	290.3	367.5	344.0	303.5	338.2	403.4	344.3	312.4	340.1	369.4
40°	251.8	280.6	356.5	334.4	292.8	328.1	392.4	334.0	301.6	330.1	358.3
40.5°	241.8	271.5	345.6	324.4	282.6	317.7	381.1	323.7	291.3	319.9	346.9
41°	232.1	261.9	334.4	314.3	272.8	307.2	369.2	313.1	281.0	309.6	335.7
41.5°	222.8	252.5	323.4	304.2	262.8	297.2	357.1	302.8	271.4	299.5	324.5
42°	213.5	242.9	312.1	294.1	253.0	287.2	344.8	292.5	261.4	289.4	313.2
42.5°	204.7	233.5	300.8	284.1	243.3	277.3	332.7	282.3	251.8	279.7	302.2
43°	196.1	224.0	289.4	274.3	233.6	267.4	321.0	272.5	242.4	269.9	291.4
43.5°	187.8	214.9	278.1	264.8	224.0	257.9	309.3	262.9	232.6	260.6	279.9



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	163.4	189.2	245.9	237.0	196.1	230.0	275.9	234.7	204.0	233.2	248.4
45.5°	155.8	181.1	235.6	228.1	187.0	220.5	265.7	225.7	195.0	224.6	238.1
46°	148.6	173.1	226.0	219.2	178.3	211.6	255.6	216.4	186.0	215.5	228.4
46.5°	141.6	165.4	216.7	210.3	169.7	202.9	245.4	207.2	177.4	206.6	218.7
47°	134.9	157.8	207.7	201.6	161.6	194.0	235.6	198.1	169.1	197.9	209.6
47.5°	128.9	150.5	198.8	193.0	153.8	185.5	225.9	189.2	161.1	189.4	200.6
48°	123.3	143.4	190.0	184.5	146.2	177.1	216.0	180.8	153.4	181.0	191.7
48.5°	118.2	136.6	181.5	176.0	139.2	168.7	206.8	172.5	146.1	172.9	183.1
49°	113.6	130.1	173.5	168.1	132.2	160.8	197.2	164.5	138.8	165.1	174.8
49.5°	109.1	124.2	165.6	160.4	125.7	152.8	188.0	156.5	132.1	157.6	166.8
50°	105.1	118.5	157.8	152.9	119.4	145.5	179.2	149.1	125.5	150.1	159.2
50.5°	101.4	113.4	150.2	145.7	113.3	138.1	170.5	141.6	119.2	143.1	151.5
51°	98.0	108.7	143.1	139.0	107.6	131.3	162.3	134.7	113.3	136.3	144.4
51.5°	94.7	104.3	136.3	132.1	102.4	124.8	154.3	128.1	107.8	129.8	137.6
52°	91.6	100.5	129.7	125.8	97.4	118.5	146.7	121.9	102.6	123.6	131.1
52.5°	88.5	96.8	123.7	119.5	93.3	112.4	139.2	115.4	97.6	117.4	124.9
53°	85.6	93.4	117.8	113.5	89.1	106.7	132.3	109.5	93.2	111.8	118.8
53.5°	82.5	90.1	112.3	107.6	85.0	101.2	125.5	104.1	89.2	106.2	113.3
54°	79.6	87.1	106.9	102.2	80.8	96.2	119.2	99.0	85.4	100.9	107.9
54.5°	76.8	84.1	102.1	97.0	76.8	92.0	112.9	94.0	81.4	96.0	103.0
55°	74.2	81.2	97.4	92.1	73.3	87.8	107.3	89.8	77.6	91.9	98.3
55.5°	71.9	78.3	93.0	87.8	70.5	83.6	101.6	85.8	74.1	87.9	93.8
56°	70.3	75.5	88.9	83.5	68.3	79.4	96.4	81.8	71.1	83.8	90.0
56.5°	69.0	72.7	85.1	79.7	66.9	75.2	92.1	77.7	68.6	79.9	86.2
57°	67.9	70.4	81.5	76.1	65.7	71.7	87.8	74.1	66.9	75.8	82.4
57.5°	66.6	68.2	78.1	72.6	64.6	68.6	83.5	70.8	65.7	72.4	78.6
58°	65.5	66.7	75.1	69.4	63.4	66.1	79.3	68.0	64.6	69.3	75.6
58.5°	64.3	65.5	72.4	66.8	62.3	64.6	74.9	65.6	63.4	66.8	72.7
59°	63.1	64.2	69.8	65.2	61.0	63.2	71.7	64.0	62.2	64.9	70.0
59.5°	61.9	63.1	67.6	63.8	59.9	62.1	68.8	62.7	61.0	63.5	67.7
60°	60.6	62.0	65.4	62.6	58.8	60.9	66.2	61.5	59.8	62.3	65.4
60.5°	59.3	60.7	63.4	61.4	57.6	59.7	63.9	60.3	58.6	61.1	63.3
61°	58.1	59.5	61.5	60.2	56.5	58.5	62.0	59.2	57.4	60.0	61.4
61.5°	56.9	58.2	59.8	59.0	55.3	57.4	60.0	58.0	56.2	58.8	59.7
62°	55.6	57.0	58.2	57.8	54.3	56.3	58.2	56.8	55.0	57.6	58.0
62.5°	54.3	55.6	56.6	56.7	53.2	55.1	56.6	55.5	53.9	56.4	56.4
63°	53.2	54.4	55.1	55.5	52.0	53.9	55.0	54.4	52.6	55.1	54.9
63.5°	51.9	53.2	53.7	54.3	50.9	52.7	53.6	53.2	51.5	54.0	53.6
64°	50.7	51.9	52.4	53.2	49.8	51.6	52.1	51.9	50.4	52.7	52.2
64.5°	49.4	50.8	51.2	52.0	48.7	50.5	50.9	50.8	49.1	51.5	51.0
65°	48.3	49.4	50.0	50.9	47.7	49.4	49.7	49.5	48.0	50.4	49.7
65.5°	47.0	48.2	48.9	49.7	46.5	48.3	48.5	48.4	46.8	49.1	48.6
66°	45.8	47.0	47.7	48.6	45.5	47.1	47.4	47.1	45.7	48.0	47.5



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	42.2	43.3	44.1	45.2	42.3	43.8	43.9	43.6	42.3	44.5	44.0
68°	41.0	42.1	43.0	44.0	41.2	42.7	42.7	42.5	41.1	43.3	42.9
68.5°	39.8	40.8	41.8	42.9	40.1	41.7	41.6	41.3	40.0	42.1	41.8
69°	38.6	39.7	40.6	41.8	39.1	40.5	40.4	40.2	38.9	40.9	40.5
69.5°	37.2	38.4	39.4	40.7	38.0	39.4	39.3	39.0	37.7	39.8	39.4
70°	36.1	37.6	38.2	39.6	37.0	38.3	38.0	37.8	36.6	38.6	38.2
70.5°	35.0	36.4	37.0	38.4	36.0	37.3	36.9	36.7	35.5	37.5	37.1
71°	33.9	35.1	35.9	37.5	34.9	36.2	35.7	35.5	34.4	36.4	36.0
71.5°	32.8	33.8	34.7	36.4	33.9	35.0	34.6	34.4	33.3	35.1	34.8
72°	31.6	32.5	33.6	35.3	32.8	34.0	33.5	33.3	32.1	34.0	33.7
72.5°	30.5	31.3	32.4	34.2	31.8	33.0	32.3	32.1	31.1	32.8	32.5
73°	29.2	30.2	31.3	33.2	30.7	31.9	31.2	31.0	29.9	31.7	31.4
73.5°	28.1	28.9	30.2	32.0	29.6	30.8	30.2	29.8	28.8	30.6	30.3
74°	26.8	27.8	29.0	31.0	28.7	29.7	29.0	28.7	27.8	29.4	29.1
74.5°	25.7	26.5	27.8	29.8	27.7	28.7	27.9	27.6	26.6	28.3	28.1
75°	24.6	25.3	26.6	28.8	26.5	27.6	26.8	26.4	25.5	27.1	26.9
75.5°	23.4	24.1	25.5	27.7	25.5	26.5	25.7	25.3	24.5	26.0	25.8
76°	22.2	22.9	24.4	26.6	24.5	25.5	24.6	24.1	23.3	24.9	24.7
76.5°	21.0	21.8	23.2	25.6	23.5	24.5	23.5	23.0	22.3	23.8	23.5
77°	19.9	20.5	22.1	24.5	22.5	23.4	22.5	21.9	21.1	22.7	22.4
77.5°	18.8	19.4	20.9	23.4	21.4	22.4	21.4	20.7	20.1	21.6	21.3
78°	17.6	18.1	19.9	22.3	20.4	21.2	20.3	19.6	19.1	20.4	20.2
78.5°	16.5	17.0	18.8	21.2	19.4	20.2	19.3	18.4	17.9	19.3	19.1
79°	15.3	15.7	17.7	20.1	18.4	19.2	18.2	17.3	16.9	18.1	18.0
79.5°	14.2	14.6	16.6	19.1	17.4	18.1	17.2	16.2	15.9	17.1	17.0
80°	13.1	13.5	15.5	18.0	16.5	17.1	16.2	15.1	14.8	16.0	16.0
80.5°	12.0	12.3	14.5	16.9	15.4	16.1	15.2	14.0	13.8	14.8	14.8
81°	10.9	11.1	13.5	15.9	14.5	15.0	14.2	13.0	12.7	13.7	13.9
81.5°	9.7	9.9	12.4	14.8	13.5	14.1	13.3	12.0	11.7	12.6	12.8
82°	8.6	8.9	11.4	13.8	12.5	13.1	12.2	11.0	10.6	11.5	11.8
82.5°	7.6	7.9	10.5	12.8	11.6	12.1	11.3	10.1	9.5	10.4	10.9
83°	6.4	6.9	9.5	11.8	10.7	11.1	10.4	9.1	8.6	9.4	9.9
83.5°	5.3	5.9	8.6	10.9	9.6	10.2	9.5	8.2	7.6	8.4	9.1
84°	4.2	5.1	7.7	9.8	8.7	9.1	8.6	7.3	6.5	7.4	8.3
84.5°	3.7	4.2	6.8	8.9	7.8	8.2	7.8	6.4	5.5	6.4	7.5
85°	3.2	3.6	6.0	7.9	6.7	7.3	6.8	5.5	4.5	5.4	6.6
85.5°	2.6	3.0	5.1	6.9	5.8	6.2	6.0	4.7	3.7	4.6	5.7
86°	2.1	2.5	4.2	5.9	4.9	5.3	5.2	4.0	3.1	3.9	5.0
86.5°	1.6	2.0	3.5	5.0	3.9	4.4	4.4	3.4	2.7	3.4	4.1
87°	1.1	1.3	2.7	4.0	3.0	3.4	3.5	2.8	2.3	2.9	3.3
87.5°	0.6	0.8	2.0	3.1	2.1	2.5	2.7	2.2	1.8	2.3	2.5
88°	0.2	0.3	1.1	2.3	1.2	1.6	1.9	1.7	1.3	1.8	1.8
88.5°	0.0	0.1	0.4	1.3	0.4	0.7	1.0	1.0	0.9	1.2	0.9



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	651.0	651.0	651.0	651.0	651.0	651.0
0.5°	650.3	650.8	650.8	650.9	651.0	650.9
1°	650.1	650.5	650.4	650.5	650.7	650.6
1.5°	649.7	650.1	649.9	650.0	650.2	650.1
2°	649.3	649.7	649.4	649.4	649.6	649.6
2.5°	648.8	649.2	648.8	648.8	649.0	649.1
3°	648.1	648.5	648.0	648.0	648.2	648.3
3.5°	647.4	647.9	647.4	647.3	647.5	647.7
4°	646.7	647.1	646.6	646.5	646.7	647.0
4.5°	645.9	646.4	645.6	645.5	645.7	646.1
5°	644.9	645.4	644.6	644.6	644.8	645.1
5.5°	644.0	644.5	643.6	643.5	643.8	644.2
6°	642.9	643.4	642.4	642.3	642.6	643.2
6.5°	641.8	642.2	641.3	641.2	641.4	642.0
7°	640.6	641.0	639.9	639.8	640.2	640.7
7.5°	639.2	639.7	638.6	638.5	638.7	639.3
8°	637.9	638.3	637.1	637.0	637.4	638.0
8.5°	636.4	636.8	635.6	635.5	635.8	636.4
9°	635.0	635.3	634.0	633.8	634.1	634.9
9.5°	633.3	633.6	632.4	632.2	632.5	633.2
10°	631.6	632.1	630.6	630.3	630.7	631.4
10.5°	629.8	630.3	628.8	628.5	628.8	629.6
11°	627.9	628.3	626.9	626.6	626.9	627.7
11.5°	626.1	626.4	624.8	624.5	624.9	625.7
12°	624.0	624.4	622.7	622.4	622.7	623.6
12.5°	621.9	622.2	620.6	620.3	620.5	621.4
13°	619.7	620.1	618.3	618.0	618.3	619.1
13.5°	617.4	617.8	616.0	615.7	615.9	616.8
14°	615.1	615.4	613.5	613.2	613.5	614.5
14.5°	612.6	612.9	611.0	610.6	610.8	611.9
15°	610.1	610.3	608.4	608.0	608.1	609.2
15.5°	607.4	607.6	605.6	605.3	605.3	606.4
16°	604.7	604.9	602.8	602.5	602.6	603.6
16.5°	601.8	602.1	600.1	599.6	599.7	600.6
17°	598.9	599.1	597.2	596.7	596.7	597.6
17.5°	595.9	596.1	594.0	593.6	593.5	594.4
18°	592.9	592.9	590.9	590.5	590.4	591.2
18.5°	589.6	589.7	587.6	587.4	587.1	587.8
19°	586.4	586.5	584.3	584.0	583.7	584.5
19.5°	583.1	583.1	580.9	580.7	580.3	581.0
20°	579.5	579.6	577.4	577.2	576.6	577.5
20.5°	576.0	576.1	573.8	573.4	573.0	573.9
21°	572.4	572.5	570.1	569.9	569.3	570.3

TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	561.1	561.3	558.6	558.1	557.7	558.7
23°	557.2	557.4	554.7	554.1	553.7	554.8
23.5°	553.3	553.3	550.7	549.8	549.7	550.8
24°	549.3	549.4	546.6	545.7	545.5	546.6
24.5°	545.1	545.2	542.3	541.3	541.3	543.0
25°	540.9	541.3	538.2	536.9	536.9	539.1
25.5°	536.7	537.7	533.8	532.3	532.8	532.9
26°	532.6	532.8	529.5	528.0	528.3	526.1
26.5°	528.9	525.4	525.2	523.2	524.5	519.6
27°	524.6	519.7	521.4	518.7	520.4	510.0
27.5°	517.9	511.7	516.8	513.8	513.8	499.9
28°	511.1	501.9	510.0	509.1	507.1	489.8
28.5°	504.7	492.1	503.4	504.2	500.4	480.1
29°	495.8	482.4	497.0	499.4	491.1	470.6
29.5°	486.2	472.8	487.8	494.3	481.4	461.5
30°	476.5	463.6	478.5	489.5	471.4	452.4
30.5°	467.1	454.1	468.6	484.5	461.9	443.5
31°	457.9	444.9	459.3	479.5	452.5	434.6
31.5°	448.5	435.7	449.8	474.5	443.3	425.5
32°	439.3	426.4	440.8	469.4	434.5	415.5
32.5°	430.2	416.6	431.9	464.4	426.0	405.9
33°	421.2	406.8	422.9	459.6	417.2	395.4
33.5°	412.0	396.5	413.9	455.4	408.7	384.4
34°	402.3	386.0	404.9	450.7	399.7	372.9
34.5°	392.7	375.3	395.5	443.1	390.4	362.1
35°	382.9	364.4	385.9	434.0	380.5	351.1
35.5°	372.6	353.5	376.1	427.1	370.7	340.6
36°	362.2	343.2	365.9	417.3	360.2	330.2
36.5°	351.7	332.7	355.8	405.0	349.9	320.5
37°	341.3	322.9	345.5	392.8	339.1	310.6
37.5°	331.1	312.9	335.3	380.7	329.1	301.1
38°	321.1	303.2	325.0	368.7	319.1	291.6
38.5°	311.5	293.5	315.5	357.2	309.6	281.9
39°	301.6	284.1	305.8	346.0	300.3	272.0
39.5°	292.2	274.2	296.8	335.2	291.2	261.9
40°	283.0	264.2	287.4	324.8	282.3	251.8
40.5°	274.0	254.6	278.2	314.9	273.3	241.8
41°	264.4	244.7	269.1	305.2	264.3	232.1
41.5°	255.1	235.1	260.1	295.4	255.0	222.8
42°	245.7	225.7	250.8	285.9	245.8	213.5
42.5°	236.6	216.6	241.4	276.7	236.7	204.7
43°	227.2	207.5	232.3	267.1	227.4	196.1
43.5°	218.0	198.8	223.1	257.4	218.4	187.8



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	192.3	174.0	197.1	228.3	192.9	163.4
45.5°	184.4	166.1	189.1	219.0	185.1	155.8
46°	176.3	158.3	181.1	210.1	177.2	148.6
46.5°	168.5	150.8	173.1	201.3	169.5	141.6
47°	160.9	143.6	165.6	193.0	162.1	134.9
47.5°	153.6	136.6	157.8	185.2	154.8	128.9
48°	146.2	130.4	150.5	177.7	147.7	123.3
48.5°	139.4	124.1	143.5	170.6	140.8	118.2
49°	132.5	118.6	136.8	163.4	134.3	113.6
49.5°	126.3	113.6	130.4	156.7	128.2	109.1
50°	120.1	108.8	124.2	150.0	122.5	105.1
50.5°	114.6	104.4	118.6	143.6	117.1	101.4
51°	109.4	100.6	113.3	137.4	112.2	98.0
51.5°	104.7	97.0	108.6	131.3	107.7	94.7
52°	100.3	93.7	104.3	125.5	103.5	91.6
52.5°	96.4	90.5	100.2	119.9	99.7	88.5
53°	92.7	87.4	96.5	114.6	96.1	85.6
53.5°	89.6	84.3	92.9	109.5	92.6	82.5
54°	86.6	81.3	89.5	104.8	89.4	79.6
54.5°	83.6	78.5	86.6	100.2	86.3	76.8
55°	80.5	75.7	83.5	96.0	83.5	74.2
55.5°	77.5	73.1	80.5	91.9	80.5	71.9
56°	74.8	70.8	77.7	88.2	77.7	70.3
56.5°	72.0	68.9	74.9	84.7	74.9	69.0
57°	69.5	67.5	72.2	81.2	72.3	67.9
57.5°	67.4	66.3	69.7	78.1	69.9	66.6
58°	65.5	65.1	67.7	75.2	68.0	65.5
58.5°	64.1	63.9	66.0	72.5	66.4	64.3
59°	63.0	62.8	64.8	70.0	65.3	63.1
59.5°	61.9	61.8	63.5	67.6	64.0	61.9
60°	60.7	60.5	62.4	65.5	62.9	60.6
60.5°	59.6	59.5	61.2	63.5	61.5	59.3
61°	58.3	58.3	60.0	61.7	60.4	58.1
61.5°	57.2	57.2	58.9	59.9	59.2	56.9
62°	56.1	56.1	57.7	58.2	57.9	55.6
62.5°	54.9	54.9	56.5	56.7	56.6	54.3
63°	53.8	53.9	55.3	55.2	55.3	53.2
63.5°	52.6	52.7	54.2	53.9	54.1	51.9
64°	51.5	51.7	53.1	52.5	52.8	50.7
64.5°	50.4	50.6	51.8	51.4	51.6	49.4
65°	49.3	49.4	50.8	50.3	50.4	48.3
65.5°	48.2	48.4	49.6	49.0	49.1	47.0
66°	47.0	47.2	48.4	47.9	47.9	45.8



TEST NUMBER: P775712

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	43.7	44.0	45.1	44.5	44.1	42.2
68°	42.6	43.0	43.9	43.2	42.9	41.0
68.5°	41.6	41.9	42.8	42.0	41.7	39.8
69°	40.4	40.8	41.7	40.8	40.5	38.6
69.5°	39.3	39.8	40.5	39.6	39.3	37.2
70°	38.2	38.8	39.4	38.4	38.0	36.1
70.5°	37.1	37.5	38.3	37.4	36.9	35.0
71°	36.1	36.5	37.6	36.3	35.6	33.9
71.5°	34.9	35.5	36.5	35.0	34.5	32.8
72°	33.9	34.5	35.2	33.9	33.4	31.6
72.5°	32.7	33.5	34.1	32.7	32.1	30.5
73°	31.7	32.5	33.0	31.6	30.9	29.2
73.5°	30.7	31.4	31.8	30.4	29.7	28.1
74°	29.5	30.4	30.8	29.2	28.5	26.8
74.5°	28.5	29.3	29.6	28.1	27.3	25.7
75°	27.4	28.3	28.5	26.9	26.1	24.6
75.5°	26.3	27.3	27.5	25.8	24.9	23.4
76°	25.2	26.2	26.3	24.6	23.7	22.2
76.5°	24.1	25.1	25.3	23.4	22.5	21.0
77°	23.1	24.0	24.1	22.4	21.2	19.9
77.5°	22.0	23.0	23.1	21.2	20.1	18.8
78°	20.9	22.0	22.0	20.1	18.9	17.6
78.5°	19.8	20.9	20.9	19.0	17.7	16.5
79°	18.8	19.9	19.8	17.9	16.5	15.3
79.5°	17.7	18.9	18.8	16.8	15.3	14.2
80°	16.6	17.8	17.6	15.7	14.1	13.1
80.5°	15.5	16.8	16.6	14.7	13.0	12.0
81°	14.5	15.9	15.5	13.7	11.8	10.9
81.5°	13.6	14.8	14.5	12.6	10.8	9.7
82°	12.5	13.8	13.5	11.6	9.6	8.6
82.5°	11.5	12.8	12.4	10.7	8.7	7.6
83°	10.6	11.8	11.4	9.7	7.7	6.4
83.5°	9.5	10.8	10.4	8.8	6.7	5.3
84°	8.6	9.8	9.3	7.9	5.8	4.2
84.5°	7.6	8.9	8.4	7.0	5.0	3.7
85°	6.6	7.9	7.4	6.1	4.2	3.2
85.5°	5.6	6.9	6.3	5.3	3.6	2.6
86°	4.7	5.9	5.3	4.4	3.0	2.1
86.5°	3.6	5.0	4.4	3.5	2.4	1.6
87°	2.7	3.9	3.4	2.7	1.8	1.1
87.5°	1.8	3.1	2.6	2.0	1.1	0.6
88°	0.9	2.2	1.8	1.1	0.5	0.2
88.5°	0.3	1.2	0.9	0.3	0.2	0.0



TEST NUMBER: P775712
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.1	0.1	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°	566.5	570.6	581.1	590.0	589.5	592.9	595.0	594.0	591.9	588.3	579.7
22°	562.5	566.9	577.6	586.7	586.4	589.7	591.8	590.9	588.8	585.2	576.1



44°	179.6	205.8	266.9	255.1	214.5	248.4	297.6	253.3	222.8	251.1	269.0
44.5°	171.4	197.5	256.4	245.9	205.3	239.2	286.8	244.2	213.5	242.4	258.4



66.5°	44.7	45.8	46.5	47.5	44.3	46.0	46.2	46.0	44.6	46.8	46.3
67°	43.4	44.6	45.4	46.3	43.3	44.9	45.1	44.9	43.4	45.6	45.2



89°	0.0	0.1	0.1	0.5	0.1	0.2	0.4	0.5	0.5	0.7	0.4
89.5°	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3	0.1

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

Scaled Data Report





21.5°	568.8	568.9	566.4	566.0	565.4	566.5
22°	565.0	565.0	562.5	562.1	561.6	562.5



44°	209.3	190.3	214.3	247.5	209.5	179.6
44.5°	200.9	182.1	205.8	237.9	201.2	171.4

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

Scaled Data Report



66.5°	45.9	46.2	47.4	46.7	46.6	44.7
67°	44.9	45.2	46.2	45.6	45.4	43.4

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

Scaled Data Report



89°	0.1	0.4	0.2	0.1	0.1	0.0
89.5°	0.0	0.1	0.1	0.1	0.1	0.0

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

Scaled Data Report



(END OF REPORT)