

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



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: P775631

Luminaire Tested: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775631
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B031)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD41TRMB-1000lm-3000K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 932.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.26
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

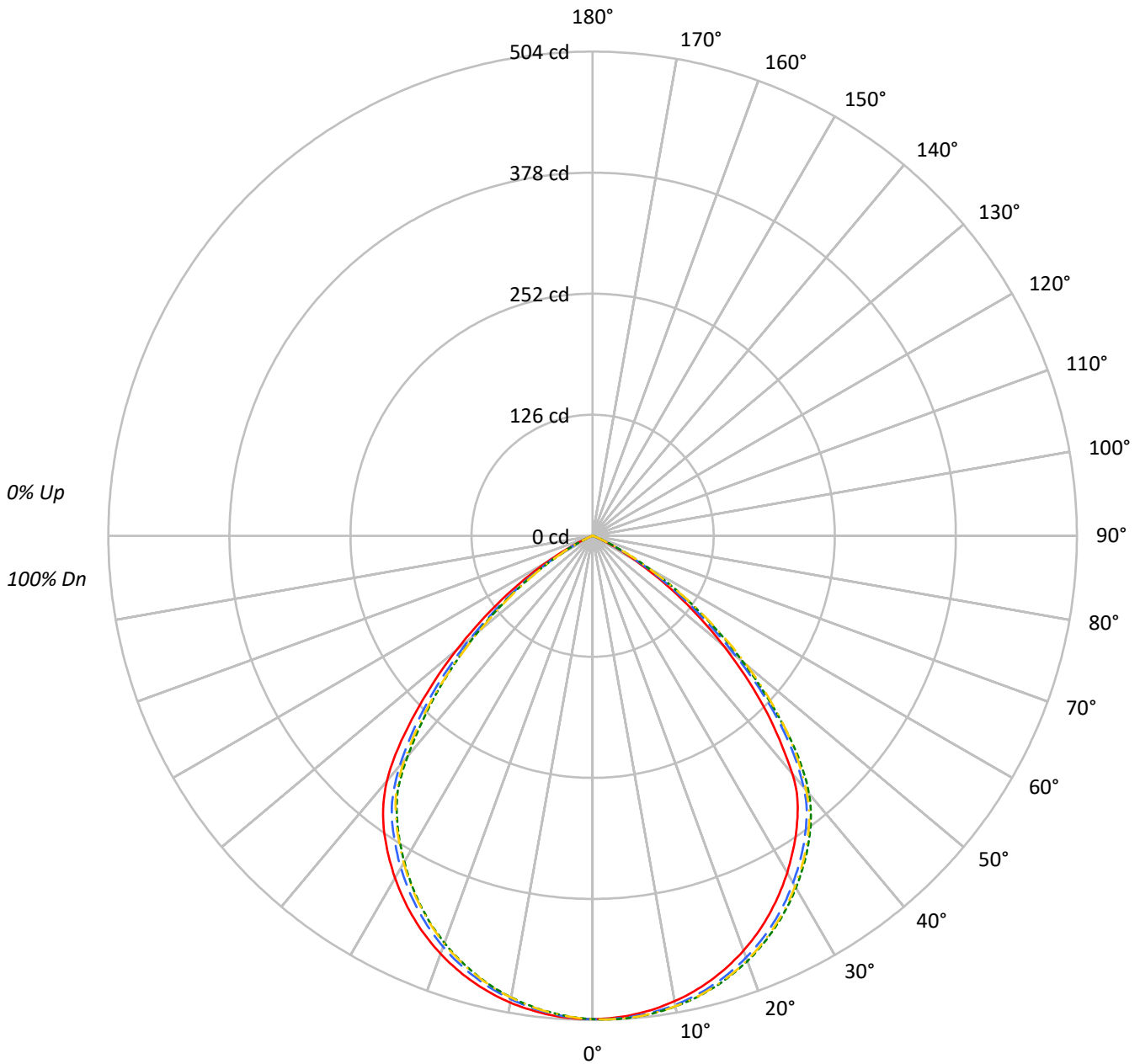
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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								
1	112	109	106	103	109	106	104	101	102	100	98	99	97	95	95	94	92	90								
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	81								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72								
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64								
5	84	74	66	61	82	73	66	60	71	64	60	69	63	59	67	62	59	57								
6	78	67	60	54	77	66	59	54	65	58	54	63	57	53	62	57	53	51								
7	73	62	54	49	72	61	54	49	59	53	48	58	52	48	57	52	48	46								
8	69	57	49	44	67	56	49	44	55	48	44	54	48	44	53	47	43	42								
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38								
10	60	49	42	37	59	48	41	37	47	41	37	46	41	36	45	40	36	35								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	63328	63328	63328	63328
5°	63178	63544	63266	62925
10°	62861	63576	63052	62349
15°	62330	63451	62656	61523
20°	61526	63106	61995	60387
25°	60362	62445	61057	58904
30°	58854	61499	59770	56950
35°	56891	60148	58074	54571
40°	53179	57549	54740	49220
45°	44851	50386	46399	40419
50°	34713	40039	36142	30484
55°	23828	28699	25013	20142
60°	12887	16914	13944	10169
65°	3961	6105	4348	2740
70°	368	405	368	368
75°	389	389	389	389
80°	362	362	290	362
85°	144	289	144	289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°

Vertical Angle: 45°

Luminance: 50795 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.5	5.1
10°-20°	135.2	14.5
20°-30°	201.1	21.6
30°-40°	232.5	24.9
40°-50°	196.2	21.0
50°-60°	99.8	10.7
60°-70°	18.7	2.0
70°-80°	0.8	0.1
80°-90°	0.2	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°	383.9	41.2
0°-40°	616.3	66.1
0°-60°	912.3	97.9
0°-90°	932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	932.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	503	503	503	503	503	
5°	500	503	501	498	500	47
15°	478	487	481	472	478	135
25°	435	450	440	424	435	200
35°	370	392	378	355	370	231
45°	252	283	261	227	252	193
55°	109	131	114	92	109	98
65°	13	20	15	9	13	18
75°	1	1	1	1	1	1
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°	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2
0.5°	503.1	503.1	503.3	503.4	503.5	503.5	503.5	503.1	503.0	503.1	503.0
1°	503.0	503.2	503.4	503.5	503.6	503.7	503.6	503.2	503.0	503.0	502.8
1.5°	502.8	503.1	503.4	503.6	503.6	503.8	503.7	503.3	502.9	502.7	502.5
2°	502.6	503.0	503.3	503.7	503.7	503.9	503.8	503.3	502.8	502.5	502.1
2.5°	502.2	502.7	503.2	503.7	503.7	503.8	503.6	503.2	502.6	502.2	501.8
3°	501.9	502.5	503.0	503.5	503.7	503.8	503.6	502.9	502.4	501.9	501.3
3.5°	501.5	502.2	502.9	503.4	503.5	503.7	503.6	502.8	502.0	501.4	500.9
4°	501.2	501.9	502.6	503.2	503.4	503.6	503.4	502.7	501.7	501.0	500.3
4.5°	500.7	501.5	502.4	502.9	503.2	503.4	503.1	502.5	501.3	500.3	499.6
5°	500.1	501.1	502.0	502.7	503.0	503.1	502.8	502.1	500.8	499.8	499.0
5.5°	499.5	500.5	501.6	502.4	502.6	502.9	502.6	501.7	500.3	499.3	498.3
6°	498.8	500.0	501.3	502.0	502.3	502.5	502.2	501.3	499.7	498.6	497.6
6.5°	498.1	499.4	500.7	501.6	501.9	502.1	501.7	500.9	499.1	498.0	496.9
7°	497.5	498.8	500.1	501.2	501.4	501.6	501.2	500.3	498.4	497.1	496.1
7.5°	496.7	498.1	499.5	500.5	500.8	501.2	500.7	499.7	497.7	496.4	495.1
8°	495.9	497.4	498.9	500.0	500.2	500.5	500.0	499.0	496.9	495.4	494.2
8.5°	494.9	496.6	498.2	499.3	499.6	499.9	499.4	498.3	496.1	494.5	493.2
9°	493.9	495.8	497.5	498.6	498.9	499.3	498.8	497.6	495.2	493.6	492.1
9.5°	492.9	494.8	496.7	497.9	498.2	498.6	498.0	496.9	494.4	492.6	491.0
10°	491.9	493.9	495.8	497.2	497.5	497.9	497.3	496.1	493.4	491.6	489.8
10.5°	490.8	492.9	494.8	496.3	496.7	497.1	496.4	495.1	492.4	490.4	488.6
11°	489.6	491.8	493.9	495.3	495.8	496.2	495.5	494.2	491.4	489.2	487.4
11.5°	488.5	490.6	492.9	494.4	494.8	495.2	494.5	493.2	490.2	488.0	486.1
12°	487.1	489.5	491.8	493.4	493.9	494.2	493.6	492.1	489.0	486.8	484.6
12.5°	485.9	488.3	490.6	492.4	492.9	493.2	492.5	491.0	487.7	485.4	483.2
13°	484.4	487.1	489.4	491.4	491.8	492.2	491.5	489.9	486.5	484.0	481.7
13.5°	483.1	485.7	488.2	490.1	490.6	491.0	490.2	488.7	485.1	482.6	480.1
14°	481.6	484.3	487.0	488.9	489.4	489.9	489.1	487.4	483.7	481.2	478.6
14.5°	480.0	482.9	485.5	487.7	488.2	488.6	487.8	486.1	482.4	479.6	476.9
15°	478.4	481.4	484.1	486.4	487.0	487.4	486.5	484.7	480.9	478.0	475.1
15.5°	476.8	479.6	482.8	484.9	485.6	486.0	485.0	483.2	479.3	476.4	473.5
16°	475.0	478.2	481.3	483.5	484.2	484.6	483.6	481.8	477.7	474.6	471.8
16.5°	473.3	476.6	479.6	482.1	482.7	483.1	482.2	480.2	476.1	472.9	469.8
17°	471.6	474.8	478.1	480.5	481.3	481.6	480.6	478.7	474.3	471.2	467.9
17.5°	469.6	473.0	476.5	478.9	479.6	479.9	479.0	477.1	472.5	469.2	465.8
18°	467.6	471.2	474.6	477.3	478.0	478.3	477.4	475.2	470.6	467.3	463.8
18.5°	465.6	469.3	472.8	475.6	476.3	476.8	475.6	473.5	468.9	465.3	461.8
19°	463.6	467.3	471.1	473.8	474.6	475.0	473.8	471.8	467.0	463.3	459.7
19.5°	461.6	465.3	469.1	472.1	472.9	473.2	472.0	469.9	465.0	461.3	457.5
20°	459.4	463.3	467.2	470.2	471.2	471.4	470.1	468.0	462.9	459.1	455.2
20.5°	457.2	461.3	465.2	468.3	469.2	469.5	468.2	466.1	460.9	457.0	452.9
21°	454.9	459.0	463.2	466.4	467.4	467.7	466.3	464.0	458.7	454.6	450.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	447.8	452.3	456.7	460.1	461.0	461.4	459.9	457.7	452.0	447.6	443.2
23°	445.3	449.9	454.4	458.0	458.9	459.2	457.8	455.4	449.6	445.2	440.6
23.5°	442.8	447.4	452.2	455.8	456.8	456.9	455.5	453.1	447.3	442.7	437.9
24°	440.1	444.9	449.8	453.5	454.4	454.7	453.2	450.8	444.8	440.1	435.3
24.5°	437.5	442.5	447.4	451.1	452.2	452.3	450.8	448.4	442.4	437.6	432.6
25°	434.7	439.9	444.8	448.7	449.7	449.9	448.4	445.9	439.7	434.8	429.8
25.5°	432.0	437.3	442.4	446.4	447.4	447.5	445.9	443.5	437.1	432.2	426.9
26°	429.2	434.5	439.7	443.8	444.9	445.0	443.5	440.9	434.4	429.3	424.0
26.5°	426.4	431.8	437.2	441.2	442.4	442.4	440.8	438.3	431.7	426.4	421.0
27°	423.5	429.0	434.4	438.7	439.7	439.8	438.2	435.6	428.9	423.7	418.1
27.5°	420.5	426.1	431.8	436.1	437.1	437.2	435.5	432.9	426.1	420.7	415.0
28°	417.5	423.3	429.0	433.4	434.5	434.6	432.9	430.1	423.4	417.8	411.9
28.5°	414.4	420.2	426.0	430.6	431.8	431.8	430.1	427.3	420.4	414.8	408.8
29°	411.3	417.3	423.1	427.8	429.0	428.9	427.2	424.5	417.4	411.6	405.7
29.5°	408.2	414.2	420.2	425.0	426.1	426.0	424.3	421.6	414.4	408.6	402.4
30°	405.0	411.2	417.3	422.2	423.2	423.2	421.3	418.6	411.3	405.4	399.0
30.5°	401.7	408.1	414.2	419.2	420.3	420.0	418.4	415.6	408.3	402.3	395.8
31°	398.5	404.9	411.1	416.0	417.3	417.1	415.2	412.6	405.0	399.0	392.5
31.5°	395.0	401.6	408.0	413.1	414.2	414.0	412.2	409.5	401.7	395.6	389.0
32°	391.6	398.4	404.8	410.0	411.1	410.9	409.1	406.3	398.5	392.4	385.6
32.5°	388.2	394.9	401.5	406.8	407.9	407.7	405.9	403.2	395.2	388.9	381.9
33°	384.7	391.5	398.3	403.6	404.8	404.4	402.8	399.9	391.9	385.5	378.5
33.5°	381.2	388.1	394.9	400.4	401.5	401.1	399.5	396.5	388.5	382.0	374.8
34°	377.7	384.7	391.6	397.1	398.3	398.0	396.0	393.3	385.0	378.4	371.3
34.5°	374.0	381.1	388.2	393.8	394.9	394.5	392.6	389.8	381.5	374.8	367.5
35°	370.3	377.6	384.6	390.2	391.5	391.1	389.1	386.2	378.0	371.1	363.7
35.5°	366.4	373.9	381.0	386.8	388.0	387.7	385.6	382.8	374.3	367.3	359.6
36°	362.8	370.2	377.5	383.2	384.5	384.1	381.9	379.2	370.4	363.4	355.6
36.5°	358.8	366.4	373.8	379.6	380.9	380.4	378.3	375.4	366.4	359.3	351.4
37°	354.8	362.6	370.0	375.8	377.0	376.5	374.4	371.5	362.4	355.2	347.0
37.5°	350.5	358.4	365.9	371.8	373.1	372.6	370.5	367.6	358.2	350.7	341.7
38°	346.2	354.2	361.7	367.9	369.0	368.5	366.4	363.4	353.6	345.8	336.2
38.5°	341.3	349.5	357.4	363.6	364.7	364.1	361.7	359.0	348.9	340.5	330.4
39°	336.0	344.3	352.8	359.3	360.1	359.3	356.6	354.2	343.9	334.9	324.5
39.5°	330.2	338.6	347.4	354.6	355.4	354.0	351.2	349.0	338.6	329.2	318.3
40°	323.7	332.5	341.7	349.6	350.3	348.4	345.7	343.4	333.2	323.1	311.9
40.5°	316.4	326.4	335.9	344.3	344.8	342.7	339.9	337.6	327.1	316.8	305.3
41°	309.4	320.1	329.9	338.6	339.1	336.8	334.1	331.7	320.8	310.5	298.7
41.5°	302.2	313.6	323.6	332.5	333.0	330.9	328.3	325.5	313.9	303.9	291.8
42°	295.0	306.6	317.3	326.0	326.4	324.8	322.3	319.2	307.0	297.1	284.8
42.5°	287.8	299.7	310.7	319.3	319.9	318.7	316.2	312.8	299.6	290.2	277.4
43°	280.8	292.6	304.0	312.4	313.0	312.3	309.9	305.9	291.9	282.9	270.1
43.5°	273.5	285.4	297.0	305.2	305.9	305.8	303.4	299.2	284.2	275.5	262.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	252.0	263.2	274.9	281.9	283.1	285.4	283.2	277.5	260.7	252.6	240.3
45.5°	244.8	255.7	267.0	273.5	275.2	278.3	276.1	270.3	252.9	244.8	232.8
46°	237.4	248.3	259.4	265.5	267.2	271.0	269.1	262.5	245.2	236.6	225.4
46.5°	230.0	240.8	251.4	257.4	259.3	263.7	262.0	255.2	237.3	228.5	217.8
47°	222.3	233.3	243.5	249.2	251.1	256.1	254.6	247.2	229.9	220.5	210.5
47.5°	214.7	225.9	235.6	240.8	243.2	248.5	247.3	239.5	222.3	212.5	202.9
48°	207.1	218.3	227.2	232.7	235.5	240.9	239.7	231.7	214.8	204.5	195.6
48.5°	199.4	210.7	219.0	224.7	227.7	233.2	232.3	224.6	207.2	196.4	188.2
49°	192.0	203.3	210.8	216.7	219.9	225.5	224.6	216.5	199.6	188.5	180.8
49.5°	184.5	195.8	202.7	208.7	212.1	217.6	217.1	208.8	192.1	180.7	173.3
50°	177.3	188.1	194.5	201.1	204.5	209.7	209.2	201.2	184.6	173.1	165.9
50.5°	169.9	180.5	186.5	193.0	196.9	201.8	201.5	193.7	177.2	165.4	158.3
51°	162.9	172.7	178.3	185.4	189.2	193.9	193.4	186.4	170.0	158.0	151.1
51.5°	155.7	165.3	170.6	177.6	181.7	186.2	186.0	179.0	162.6	150.7	143.8
52°	148.7	157.6	162.9	170.2	174.2	178.3	178.1	171.7	155.4	143.5	136.6
52.5°	141.9	150.2	155.5	162.3	166.7	170.7	170.4	164.2	148.3	136.5	129.4
53°	135.0	142.9	147.8	155.2	159.3	163.0	162.7	157.1	141.3	129.6	122.4
53.5°	128.2	135.7	140.4	147.9	152.1	155.5	155.1	149.9	134.2	122.8	115.5
54°	121.5	128.3	133.3	140.7	144.8	148.0	147.5	142.9	127.4	116.4	108.9
54.5°	114.9	121.2	126.3	133.2	137.6	140.5	140.0	135.9	120.7	110.2	102.5
55°	108.6	114.3	119.4	126.6	130.8	133.3	132.8	129.0	114.0	103.7	96.0
55.5°	102.3	107.4	112.6	119.8	123.9	126.2	125.3	122.1	107.5	97.4	90.2
56°	96.0	100.8	106.1	113.0	117.0	119.1	118.2	115.5	101.0	91.7	84.3
56.5°	89.9	94.4	99.6	106.2	110.2	112.1	111.3	108.7	95.0	85.9	78.5
57°	84.0	88.0	93.4	100.1	103.7	105.4	104.5	102.3	89.1	80.3	72.6
57.5°	78.2	81.9	87.3	93.8	97.4	98.8	97.9	96.0	83.2	74.6	67.2
58°	72.4	75.9	81.1	87.7	91.3	92.5	91.7	89.9	77.2	68.9	61.9
58.5°	67.0	70.2	75.3	81.8	85.1	86.1	85.3	83.7	71.2	63.8	56.9
59°	61.4	64.8	69.8	76.0	79.0	79.8	79.1	77.5	65.7	58.5	52.1
59.5°	56.3	59.5	64.4	70.5	73.0	73.5	72.9	71.3	60.6	53.7	47.5
60°	51.2	54.3	59.1	65.1	67.2	67.8	67.1	65.7	55.4	48.9	43.1
60.5°	46.5	49.5	54.0	60.0	61.8	62.2	61.5	60.2	50.4	44.4	38.7
61°	41.8	44.7	49.3	54.8	56.3	56.8	56.0	54.7	45.6	39.9	34.7
61.5°	37.5	40.3	44.6	49.9	51.1	51.4	50.8	49.6	41.2	35.8	31.0
62°	33.7	36.0	40.2	45.3	46.1	46.4	45.9	44.6	36.6	31.7	27.3
62.5°	30.0	32.6	36.0	40.7	41.2	41.6	41.1	39.6	32.5	28.0	23.9
63°	26.2	29.1	32.6	36.4	36.6	37.1	36.5	34.9	28.4	24.4	20.7
63.5°	22.6	25.6	29.1	32.7	32.3	32.7	32.2	30.6	24.6	21.1	17.9
64°	18.9	22.1	25.6	28.9	28.1	28.5	28.2	26.5	21.0	18.0	15.1
64.5°	15.9	18.8	22.1	25.2	24.1	24.6	24.3	22.7	17.8	15.1	12.7
65°	13.3	15.9	18.7	21.4	20.5	21.0	20.7	19.1	14.6	13.1	10.8
65.5°	11.0	13.4	15.8	17.8	17.1	17.6	17.4	15.9	12.2	10.9	9.1
66°	9.0	10.9	13.2	14.7	14.1	14.5	14.3	13.6	10.0	8.8	7.3



TEST NUMBER: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.4	5.4	6.8	7.2	7.7	8.0	7.8	6.7	3.1	3.4	2.8
68°	3.7	4.1	5.2	5.4	5.5	5.7	5.5	4.5	1.8	2.3	1.9
68.5°	3.1	3.3	3.8	4.0	3.5	3.6	3.4	3.1	1.2	1.5	1.4
69°	2.3	2.6	3.1	3.3	2.3	2.4	2.2	2.0	1.1	1.2	1.1
69.5°	1.7	1.8	2.4	2.6	1.6	1.6	1.5	1.4	1.1	1.1	1.1
70°	1.0	1.1	1.7	1.7	1.1	1.1	1.1	1.1	1.0	1.0	1.0
70.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
71°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
71.5°	0.9	0.9	0.9	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0
72°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.9
74°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
74.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7
76°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
76.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
77°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
78°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
78.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6
79°	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5
80.5°	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5
81°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4
82°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4
82.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.3
83°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.3
83.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3
84°	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2
84.5°	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2
85°	0.1	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.2
85.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.2
86°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.1
86.5°	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.1	0.1
87°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
87.5°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
88°	0.0	0.0	0.1	0.1	0.0	0.1	0.1	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: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

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: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	503.2	503.2	503.2	503.2	503.2	503.2
0.5°	502.9	502.9	503.1	503.0	502.8	503.1
1°	502.6	502.6	502.8	502.7	502.6	503.0
1.5°	502.2	502.2	502.4	502.4	502.3	502.8
2°	501.9	501.8	501.9	502.0	501.8	502.6
2.5°	501.5	501.3	501.5	501.4	501.4	502.2
3°	501.0	500.8	500.9	500.9	501.0	501.9
3.5°	500.3	500.2	500.2	500.3	500.4	501.5
4°	499.7	499.6	499.6	499.7	499.9	501.2
4.5°	499.0	498.9	498.9	499.0	499.3	500.7
5°	498.3	498.1	498.1	498.3	498.6	500.1
5.5°	497.6	497.4	497.3	497.5	498.0	499.5
6°	496.8	496.5	496.4	496.8	497.2	498.8
6.5°	496.0	495.7	495.4	495.9	496.4	498.1
7°	495.0	494.7	494.6	494.9	495.5	497.5
7.5°	494.0	493.7	493.6	493.9	494.7	496.7
8°	493.0	492.6	492.6	492.8	493.7	495.9
8.5°	491.9	491.6	491.5	491.8	492.6	494.9
9°	490.8	490.3	490.2	490.6	491.5	493.9
9.5°	489.6	489.1	489.0	489.4	490.3	492.9
10°	488.4	487.9	487.7	488.2	489.1	491.9
10.5°	487.1	486.7	486.5	487.0	488.0	490.8
11°	485.7	485.3	485.1	485.6	486.6	489.6
11.5°	484.3	483.8	483.7	484.1	485.2	488.5
12°	482.9	482.4	482.2	482.7	483.9	487.1
12.5°	481.5	480.9	480.6	481.2	482.4	485.9
13°	479.8	479.2	478.9	479.6	480.9	484.4
13.5°	478.2	477.6	477.3	478.0	479.3	483.1
14°	476.6	475.8	475.6	476.4	477.7	481.6
14.5°	474.8	474.1	473.8	474.6	476.1	480.0
15°	473.0	472.2	472.0	472.7	474.2	478.4
15.5°	471.2	470.3	470.1	470.8	472.4	476.8
16°	469.2	468.4	468.3	469.0	470.5	475.0
16.5°	467.4	466.5	466.3	467.1	468.6	473.3
17°	465.3	464.3	464.1	465.0	466.7	471.6
17.5°	463.3	462.3	462.1	463.0	464.6	469.6
18°	461.2	460.1	459.9	460.7	462.7	467.6
18.5°	458.9	457.9	457.7	458.6	460.5	465.6
19°	456.8	455.6	455.3	456.4	458.2	463.6
19.5°	454.4	453.3	453.1	454.0	456.0	461.6
20°	452.1	450.9	450.7	451.7	453.9	459.4
20.5°	449.7	448.5	448.2	449.2	451.5	457.2
21°	447.3	445.9	445.7	446.8	449.0	454.9

TEST NUMBER: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	439.5	438.3	437.9	438.9	441.6	447.8
23°	436.9	435.6	435.2	436.3	438.8	445.3
23.5°	434.1	432.8	432.5	433.6	436.0	442.8
24°	431.3	429.9	429.5	430.8	433.4	440.1
24.5°	428.5	427.1	426.7	427.9	430.6	437.5
25°	425.6	424.2	423.8	425.0	427.9	434.7
25.5°	422.7	421.1	420.7	422.0	424.9	432.0
26°	419.7	418.1	417.7	419.0	422.0	429.2
26.5°	416.5	415.0	414.6	416.0	418.9	426.4
27°	413.6	411.9	411.5	412.9	415.8	423.5
27.5°	410.3	408.7	408.3	409.7	412.8	420.5
28°	407.2	405.3	405.0	406.4	409.6	417.5
28.5°	403.9	402.2	401.7	403.3	406.3	414.4
29°	400.6	398.9	398.4	399.9	403.2	411.3
29.5°	397.2	395.5	395.0	396.6	399.9	408.2
30°	393.9	391.9	391.6	393.2	396.6	405.0
30.5°	390.3	388.6	388.1	389.8	393.2	401.7
31°	386.8	385.0	384.5	386.1	389.7	398.5
31.5°	383.4	381.5	380.9	382.8	386.3	395.0
32°	379.8	377.9	377.2	379.3	382.9	391.6
32.5°	376.1	374.3	373.8	375.6	379.4	388.2
33°	372.4	370.6	370.1	371.8	375.7	384.7
33.5°	368.7	366.8	366.3	368.3	371.9	381.2
34°	364.9	363.0	362.6	364.6	368.3	377.7
34.5°	361.1	359.2	358.7	360.7	364.6	374.0
35°	357.1	355.2	354.8	356.7	360.6	370.3
35.5°	353.0	351.2	350.8	352.9	356.9	366.4
36°	348.9	346.9	346.6	348.9	353.0	362.8
36.5°	344.5	342.5	342.3	344.7	348.7	358.8
37°	339.7	338.0	337.9	340.1	344.4	354.8
37.5°	334.1	332.6	332.8	335.6	340.1	350.5
38°	328.1	326.7	327.0	330.1	334.7	346.2
38.5°	321.8	320.2	320.9	324.1	329.0	341.3
39°	315.1	313.7	314.5	317.8	323.1	336.0
39.5°	308.1	306.7	307.7	311.2	316.7	330.2
40°	301.1	299.6	300.7	304.4	310.1	323.7
40.5°	294.0	292.2	293.5	297.4	302.9	316.4
41°	287.0	285.0	286.3	290.5	295.7	309.4
41.5°	280.0	277.4	278.9	283.1	288.0	302.2
42°	272.9	270.5	271.5	275.9	280.6	295.0
42.5°	266.1	263.1	264.1	268.5	273.0	287.8
43°	259.2	256.1	256.4	261.0	265.2	280.8
43.5°	252.3	248.5	248.7	253.3	257.5	273.5



TEST NUMBER: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	231.1	227.1	225.7	229.8	235.0	252.0
45.5°	223.8	219.8	218.0	221.9	227.3	244.8
46°	216.5	212.7	210.8	214.0	220.0	237.4
46.5°	208.9	205.2	203.2	206.2	212.5	230.0
47°	201.6	198.2	195.8	198.3	205.2	222.3
47.5°	194.2	190.7	188.2	190.6	197.6	214.7
48°	186.8	183.8	181.2	182.9	190.3	207.1
48.5°	179.5	176.5	173.7	175.2	182.9	199.4
49°	172.4	169.5	166.7	167.8	175.7	192.0
49.5°	165.1	162.6	159.4	160.5	168.4	184.5
50°	158.0	155.7	152.4	153.1	161.2	177.3
50.5°	151.3	148.8	145.3	146.0	154.1	169.9
51°	144.4	142.0	138.6	139.1	147.2	162.9
51.5°	137.6	135.4	131.8	132.3	140.1	155.7
52°	130.8	128.9	125.2	125.6	133.5	148.7
52.5°	124.3	122.5	118.6	119.0	126.8	141.9
53°	117.7	116.0	112.4	112.8	120.2	135.0
53.5°	111.2	109.7	105.9	106.7	113.7	128.2
54°	104.7	103.5	99.9	100.5	107.4	121.5
54.5°	98.7	97.6	94.1	94.7	101.2	114.9
55°	92.8	91.8	88.4	89.1	95.2	108.6
55.5°	87.0	85.8	82.9	83.6	89.2	102.3
56°	81.1	80.1	77.4	78.3	83.4	96.0
56.5°	75.3	74.6	72.1	73.1	77.7	89.9
57°	69.5	69.2	67.1	68.0	72.4	84.0
57.5°	64.2	64.0	62.2	63.1	67.0	78.2
58°	58.9	58.8	57.5	58.5	62.0	72.4
58.5°	53.8	53.9	53.0	54.0	56.9	67.0
59°	48.9	49.2	48.6	49.6	52.3	61.4
59.5°	44.2	44.7	44.5	45.4	47.8	56.3
60°	39.8	40.4	40.5	41.5	43.5	51.2
60.5°	35.6	36.0	36.6	37.6	39.2	46.5
61°	31.6	32.6	33.4	34.4	35.2	41.8
61.5°	27.8	29.2	30.1	31.1	31.8	37.5
62°	24.2	25.7	26.8	27.9	28.4	33.7
62.5°	21.0	22.3	23.6	24.6	24.9	30.0
63°	18.0	18.9	20.3	21.3	21.5	26.2
63.5°	15.2	16.0	17.6	18.6	18.6	22.6
64°	12.7	13.5	15.0	16.0	15.9	18.9
64.5°	10.9	11.2	12.7	13.6	13.3	15.9
65°	9.3	9.2	10.6	11.3	11.1	13.3
65.5°	7.6	7.5	8.7	9.3	9.1	11.0
66°	5.9	5.9	6.8	7.6	7.2	9.0



TEST NUMBER: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.3	3.0	3.3	3.3	3.3	4.4
68°	1.7	2.3	2.6	2.8	2.3	3.7
68.5°	1.3	1.7	1.8	2.1	2.1	3.1
69°	1.1	1.1	1.1	1.6	1.8	2.3
69.5°	1.1	1.1	1.0	1.1	1.5	1.7
70°	1.0	1.0	1.0	1.0	1.2	1.0
70.5°	1.0	1.0	1.0	1.0	1.0	1.0
71°	1.0	1.0	1.0	1.0	0.9	1.0
71.5°	0.9	0.9	0.9	0.9	0.9	0.9
72°	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.8	0.9
73.5°	0.8	0.8	0.8	0.8	0.8	0.8
74°	0.8	0.8	0.8	0.8	0.8	0.8
74.5°	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.7	0.8
75.5°	0.7	0.7	0.7	0.7	0.7	0.7
76°	0.7	0.7	0.7	0.7	0.7	0.7
76.5°	0.7	0.7	0.7	0.7	0.7	0.7
77°	0.7	0.7	0.7	0.7	0.6	0.7
77.5°	0.6	0.6	0.6	0.6	0.6	0.6
78°	0.6	0.6	0.6	0.6	0.6	0.6
78.5°	0.6	0.6	0.6	0.6	0.5	0.6
79°	0.6	0.6	0.6	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.4	0.5
80.5°	0.5	0.5	0.5	0.5	0.4	0.4
81°	0.4	0.5	0.5	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.3	0.4
82°	0.4	0.4	0.4	0.4	0.3	0.3
82.5°	0.4	0.4	0.4	0.3	0.3	0.3
83°	0.3	0.3	0.3	0.3	0.2	0.3
83.5°	0.3	0.3	0.3	0.3	0.2	0.2
84°	0.3	0.3	0.3	0.3	0.2	0.2
84.5°	0.2	0.2	0.2	0.2	0.1	0.1
85°	0.2	0.2	0.2	0.2	0.1	0.1
85.5°	0.2	0.2	0.2	0.2	0.1	0.1
86°	0.1	0.1	0.1	0.1	0.1	0.1
86.5°	0.1	0.1	0.1	0.1	0.1	0.0
87°	0.1	0.1	0.1	0.1	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: P775631

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3000K

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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

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21.5°	452.6	456.9	461.2	464.3	465.2	465.5	464.1	462.0	456.6	452.4	448.2
22°	450.2	454.6	458.9	462.3	463.2	463.4	462.2	459.9	454.2	450.1	445.7



44°	266.5	278.1	289.8	297.5	298.7	299.2	296.8	292.1	276.4	267.9	255.3
44.5°	259.3	270.6	282.2	289.8	290.8	292.4	290.3	285.3	268.4	260.4	247.8



66.5°	7.1	8.9	10.8	11.9	11.9	12.4	12.0	11.3	7.7	6.7	5.5
67°	5.7	7.0	8.7	9.4	9.8	10.1	9.9	9.0	5.4	4.6	3.8



89°	0.0	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	0.0

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21.5°	444.7	443.5	443.1	444.2	446.5	452.6
22°	442.2	440.9	440.5	441.6	444.0	450.2



44°	245.2	241.5	241.0	245.5	250.0	266.5
44.5°	238.2	234.1	233.3	237.6	242.5	259.3



66.5°	4.3	4.7	5.3	5.9	5.6	7.1
67°	3.3	3.6	4.0	4.5	4.4	5.7

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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)