

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: P775661

Luminaire Tested: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775661
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156A001)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD42TRMW-1000lm-3000K
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

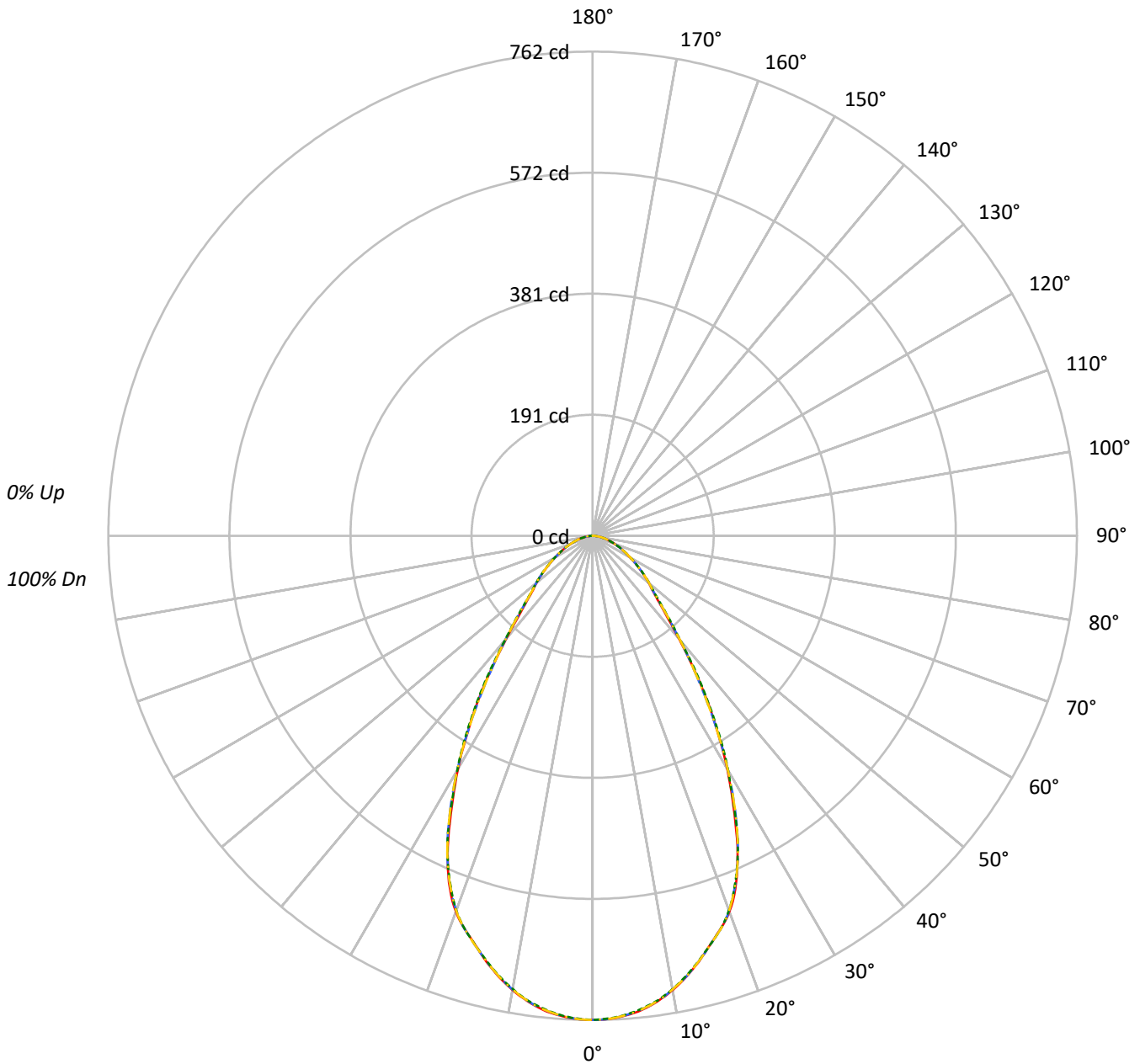
Lumens per Lamp: N/A
Luminaire Lumens: 984.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89	89	
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80	80	
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71	71	
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64	64	
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58	58	
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53	53	
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49	49	
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45	45	
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42	42	
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39	39	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	95898	95898	95898	95898
5°	95228	95013	95228	95013
10°	92764	92559	92764	92559
15°	88662	88558	88662	88558
20°	84307	83999	84307	83999
25°	74832	75068	74832	75068
30°	61557	61891	61557	61891
35°	47765	48272	47765	48272
40°	34697	35288	34697	35288
45°	26270	26910	26270	26910
50°	22613	22790	22613	22790
55°	19659	19879	19659	19879
60°	17191	17342	17191	17342
65°	15098	15217	15098	15217
70°	13320	13394	13320	13394
75°	11719	11719	11719	11719
80°	10146	10074	10146	10074
85°	8086	8086	8086	8086

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 26910 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.0	7.2
10°-20°	191.2	19.4
20°-30°	244.8	24.9
30°-40°	194.0	19.7
40°-50°	118.8	12.1
50°-60°	81.2	8.3
60°-70°	50.8	5.2
70°-80°	25.8	2.6
80°-90°	6.5	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°	507.0	51.5
0°-40°	700.9	71.2
0°-60°	900.9	91.6
0°-90°	984.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	984.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	762	762	762	762	762	
5°	754	752	754	752	754	71
15°	680	680	680	680	680	191
25°	539	541	539	541	539	244
35°	311	314	311	314	311	194
45°	148	151	148	151	148	117
55°	90	91	90	91	90	81
65°	51	51	51	51	51	51
75°	24	24	24	24	24	26
85°	6	6	6	6	6	6
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°	762.0	762.0	762.0	762.0	762.0	762.0	762.0	762.0	762.0	762.0	762.0
0.5°	762.1	762.0	761.8	761.7	761.4	761.7	761.8	762.0	762.1	762.0	761.8
1°	761.8	761.7	761.6	761.5	761.1	761.5	761.6	761.7	761.8	761.7	761.6
1.5°	761.4	761.2	761.2	761.0	760.7	761.0	761.2	761.2	761.4	761.2	761.2
2°	760.8	760.7	760.5	760.4	760.0	760.4	760.5	760.7	760.8	760.7	760.5
2.5°	760.1	759.9	759.7	759.6	759.1	759.6	759.7	759.9	760.1	759.9	759.7
3°	759.1	758.9	758.7	758.5	758.0	758.5	758.7	758.9	759.1	758.9	758.7
3.5°	758.0	757.8	757.5	757.3	756.9	757.3	757.5	757.8	758.0	757.8	757.5
4°	756.6	756.5	756.1	755.9	755.4	755.9	756.1	756.5	756.6	756.5	756.1
4.5°	755.2	755.0	754.6	754.4	753.8	754.4	754.6	755.0	755.2	755.0	754.6
5°	753.8	753.5	753.1	752.9	752.1	752.9	753.1	753.5	753.8	753.5	753.1
5.5°	752.2	751.5	751.0	750.8	750.2	750.8	751.0	751.5	752.2	751.5	751.0
6°	749.9	749.5	749.0	748.7	747.9	748.7	749.0	749.5	749.9	749.5	749.0
6.5°	747.6	747.2	746.6	746.3	745.5	746.3	746.6	747.2	747.6	747.2	746.6
7°	745.1	744.7	744.4	743.9	743.2	743.9	744.4	744.7	745.1	744.7	744.4
7.5°	742.3	741.9	741.5	741.3	740.6	741.3	741.5	741.9	742.3	741.9	741.5
8°	739.4	739.1	738.7	738.4	738.0	738.4	738.7	739.1	739.4	739.1	738.7
8.5°	736.3	735.9	735.5	735.2	734.8	735.2	735.5	735.9	736.3	735.9	735.5
9°	733.1	732.8	732.2	731.9	731.5	731.9	732.2	732.8	733.1	732.8	732.2
9.5°	729.5	729.3	728.8	728.5	728.1	728.5	728.8	729.3	729.5	729.3	728.8
10°	725.9	725.6	725.2	724.8	724.3	724.8	725.2	725.6	725.9	725.6	725.2
10.5°	721.9	721.7	721.2	720.9	720.5	720.9	721.2	721.7	721.9	721.7	721.2
11°	718.0	717.8	717.3	716.9	716.4	716.9	717.3	717.8	718.0	717.8	717.3
11.5°	713.8	713.6	713.2	712.8	712.3	712.8	713.2	713.6	713.8	713.6	713.2
12°	709.5	709.3	709.0	708.5	708.1	708.5	709.0	709.3	709.5	709.3	709.0
12.5°	705.0	704.8	704.5	704.0	703.5	704.0	704.5	704.8	705.0	704.8	704.5
13°	700.4	700.2	699.9	699.5	699.0	699.5	699.9	700.2	700.4	700.2	699.9
13.5°	695.6	695.4	695.2	694.8	694.4	694.8	695.2	695.4	695.6	695.4	695.2
14°	690.7	690.6	690.4	690.0	689.6	690.0	690.4	690.6	690.7	690.6	690.4
14.5°	685.6	685.5	685.4	685.0	684.6	685.0	685.4	685.5	685.6	685.5	685.4
15°	680.5	680.5	680.3	680.1	679.7	680.1	680.3	680.5	680.5	680.5	680.3
15.5°	675.2	675.2	675.4	675.2	675.0	675.2	675.4	675.2	675.2	675.2	675.4
16°	670.1	670.2	670.5	670.4	670.2	670.4	670.5	670.2	670.1	670.2	670.5
16.5°	665.0	665.2	665.6	665.6	665.5	665.6	665.6	665.2	665.0	665.2	665.6
17°	660.2	660.4	660.8	660.7	660.8	660.7	660.8	660.4	660.2	660.4	660.8
17.5°	655.5	655.7	656.0	655.9	655.8	655.9	656.0	655.7	655.5	655.7	656.0
18°	650.9	651.0	651.2	651.0	650.8	651.0	651.2	651.0	650.9	651.0	651.2
18.5°	646.0	646.0	646.0	645.8	645.5	645.8	646.0	646.0	646.0	646.0	646.0
19°	641.0	640.7	640.5	640.2	639.9	640.2	640.5	640.7	641.0	640.7	640.5
19.5°	635.5	635.1	634.5	634.3	634.0	634.3	634.5	635.1	635.5	635.1	634.5
20°	629.5	629.0	627.8	627.9	627.2	627.9	627.8	629.0	629.5	629.0	627.8
20.5°	622.8	622.0	620.7	621.1	620.3	621.1	620.7	622.0	622.8	622.0	620.7
21°	615.9	614.7	613.1	613.7	612.6	613.7	613.1	614.7	615.9	614.7	613.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	590.5	589.3	588.2	588.1	587.6	588.1	588.2	589.3	590.5	589.3	588.2
23°	580.8	579.8	579.6	578.9	578.7	578.9	579.6	579.8	580.8	579.8	579.6
23.5°	570.9	570.0	570.5	569.3	569.8	569.3	570.5	570.0	570.9	570.0	570.5
24°	560.6	559.9	561.1	559.5	560.4	559.5	561.1	559.9	560.6	559.9	561.1
24.5°	550.0	549.7	551.2	549.6	550.8	549.6	551.2	549.7	550.0	549.7	551.2
25°	538.9	539.1	540.9	539.7	540.6	539.7	540.9	539.1	538.9	539.1	540.9
25.5°	527.3	528.6	530.3	529.8	530.0	529.8	530.3	528.6	527.3	528.6	530.3
26°	515.5	517.8	519.4	519.5	518.6	519.5	519.4	517.8	515.5	517.8	519.4
26.5°	503.3	506.8	508.0	508.7	506.9	508.7	508.0	506.8	503.3	506.8	508.0
27°	491.5	495.4	496.6	497.7	495.0	497.7	496.6	495.4	491.5	495.4	496.6
27.5°	479.9	483.5	485.0	486.4	482.8	486.4	485.0	483.5	479.9	483.5	485.0
28°	468.2	471.7	473.1	474.6	470.7	474.6	473.1	471.7	468.2	471.7	473.1
28.5°	456.9	459.7	461.3	462.5	458.9	462.5	461.3	459.7	456.9	459.7	461.3
29°	445.7	447.5	449.5	450.3	447.8	450.3	449.5	447.5	445.7	447.5	449.5
29.5°	434.7	435.6	437.7	438.0	436.9	438.0	437.7	435.6	434.7	435.6	437.7
30°	423.6	423.3	425.7	425.8	425.9	425.8	425.7	423.3	423.6	423.3	425.7
30.5°	412.2	411.5	413.7	413.9	415.5	413.9	413.7	411.5	412.2	411.5	413.7
31°	400.9	399.3	401.7	402.1	404.4	402.1	401.7	399.3	400.9	399.3	401.7
31.5°	389.2	387.7	389.6	390.4	393.3	390.4	389.6	387.7	389.2	387.7	389.6
32°	377.4	376.0	377.7	378.8	381.9	378.8	377.7	376.0	377.4	376.0	377.7
32.5°	366.0	364.7	366.0	367.4	370.5	367.4	366.0	364.7	366.0	364.7	366.0
33°	354.4	353.5	353.9	356.0	358.8	356.0	353.9	353.5	354.4	353.5	353.9
33.5°	344.1	342.3	342.0	344.5	347.1	344.5	342.0	342.3	344.1	342.3	342.0
34°	333.0	331.1	330.1	333.3	336.0	333.3	330.1	331.1	333.0	331.1	330.1
34.5°	322.0	319.9	318.6	322.0	324.9	322.0	318.6	319.9	322.0	319.9	318.6
35°	310.9	309.1	307.7	311.1	314.2	311.1	307.7	309.1	310.9	309.1	307.7
35.5°	300.0	298.4	296.9	300.2	303.7	300.2	296.9	298.4	300.0	298.4	296.9
36°	289.4	287.7	286.4	289.8	293.4	289.8	286.4	287.7	289.4	287.7	286.4
36.5°	278.9	277.4	276.2	279.5	282.9	279.5	276.2	277.4	278.9	277.4	276.2
37°	268.3	267.2	266.2	269.5	272.5	269.5	266.2	267.2	268.3	267.2	266.2
37.5°	258.0	257.3	256.6	259.9	262.1	259.9	256.6	257.3	258.0	257.3	256.6
38°	247.8	247.7	247.4	250.5	251.8	250.5	247.4	247.7	247.8	247.7	247.4
38.5°	238.2	238.4	238.6	241.4	241.9	241.4	238.6	238.4	238.2	238.4	238.6
39°	228.9	229.4	229.8	232.5	232.4	232.5	229.8	229.4	228.9	229.4	229.8
39.5°	219.8	220.7	221.5	223.7	223.4	223.7	221.5	220.7	219.8	220.7	221.5
40°	211.2	212.2	213.4	215.2	214.8	215.2	213.4	212.2	211.2	212.2	213.4
40.5°	203.0	204.0	205.6	207.0	206.9	207.0	205.6	204.0	203.0	204.0	205.6
41°	195.1	196.2	198.3	199.2	199.5	199.2	198.3	196.2	195.1	196.2	198.3
41.5°	187.7	188.8	191.3	191.8	192.7	191.8	191.3	188.8	187.7	188.8	191.3
42°	180.7	181.9	184.5	184.8	186.0	184.8	184.5	181.9	180.7	181.9	184.5
42.5°	174.2	175.3	178.2	178.3	179.6	178.3	178.2	175.3	174.2	175.3	178.2
43°	168.0	169.2	172.0	172.2	173.4	172.2	172.0	169.2	168.0	169.2	172.0
43.5°	162.3	163.5	166.1	166.2	167.4	166.2	166.1	163.5	162.3	163.5	166.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	147.6	148.6	150.2	150.7	151.2	150.7	150.2	148.6	147.6	148.6	150.2
45.5°	143.3	144.1	145.6	146.1	146.6	146.1	145.6	144.1	143.3	144.1	145.6
46°	139.2	139.9	141.2	142.0	142.2	142.0	141.2	139.9	139.2	139.9	141.2
46.5°	135.4	136.0	137.1	137.9	138.1	137.9	137.1	136.0	135.4	136.0	137.1
47°	131.9	132.3	133.3	134.1	134.4	134.1	133.3	132.3	131.9	132.3	133.3
47.5°	128.5	128.8	129.7	130.6	131.0	130.6	129.7	128.8	128.5	128.8	129.7
48°	125.3	125.7	126.7	127.5	127.9	127.5	126.7	125.7	125.3	125.7	126.7
48.5°	122.8	123.0	123.7	124.5	124.8	124.5	123.7	123.0	122.8	123.0	123.7
49°	120.3	120.4	121.0	121.6	122.0	121.6	121.0	120.4	120.3	120.4	121.0
49.5°	118.0	118.1	118.5	119.0	119.1	119.0	118.5	118.1	118.0	118.1	118.5
50°	115.5	115.6	115.9	116.3	116.4	116.3	115.9	115.6	115.5	115.6	115.9
50.5°	113.1	113.2	113.4	113.8	113.8	113.8	113.4	113.2	113.1	113.2	113.4
51°	110.3	110.5	110.8	111.2	111.2	111.2	110.8	110.5	110.3	110.5	110.8
51.5°	107.7	107.8	108.2	108.7	108.8	108.7	108.2	107.8	107.7	107.8	108.2
52°	104.9	105.1	105.5	106.0	106.1	106.0	105.5	105.1	104.9	105.1	105.5
52.5°	102.2	102.4	102.9	103.3	103.5	103.3	102.9	102.4	102.2	102.4	102.9
53°	99.6	99.8	100.2	100.6	100.8	100.6	100.2	99.8	99.6	99.8	100.2
53.5°	97.0	97.2	97.6	98.1	98.3	98.1	97.6	97.2	97.0	97.2	97.6
54°	94.5	94.6	95.0	95.4	95.6	95.4	95.0	94.6	94.5	94.6	95.0
54.5°	92.1	92.2	92.6	93.0	93.2	93.0	92.6	92.2	92.1	92.2	92.6
55°	89.6	89.8	90.2	90.5	90.6	90.5	90.2	89.8	89.6	89.8	90.2
55.5°	87.3	87.5	87.9	88.2	88.3	88.2	87.9	87.5	87.3	87.5	87.9
56°	85.0	85.2	85.5	85.8	85.9	85.8	85.5	85.2	85.0	85.2	85.5
56.5°	82.8	83.0	83.3	83.6	83.7	83.6	83.3	83.0	82.8	83.0	83.3
57°	80.5	80.7	81.0	81.3	81.4	81.3	81.0	80.7	80.5	80.7	81.0
57.5°	78.3	78.6	78.9	79.1	79.3	79.1	78.9	78.6	78.3	78.6	78.9
58°	76.3	76.4	76.7	77.1	77.2	77.1	76.7	76.4	76.3	76.4	76.7
58.5°	74.3	74.4	74.7	74.9	75.0	74.9	74.7	74.4	74.3	74.4	74.7
59°	72.3	72.4	72.6	72.8	73.0	72.8	72.6	72.4	72.3	72.4	72.6
59.5°	70.2	70.3	70.5	70.8	70.9	70.8	70.5	70.3	70.2	70.3	70.5
60°	68.3	68.4	68.6	68.8	68.9	68.8	68.6	68.4	68.3	68.4	68.6
60.5°	66.3	66.4	66.6	66.8	66.9	66.8	66.6	66.4	66.3	66.4	66.6
61°	64.5	64.6	64.8	65.0	65.1	65.0	64.8	64.6	64.5	64.6	64.8
61.5°	62.7	62.8	63.0	63.2	63.3	63.2	63.0	62.8	62.7	62.8	63.0
62°	60.9	60.9	61.1	61.3	61.3	61.3	61.1	60.9	60.9	60.9	61.1
62.5°	59.1	59.2	59.3	59.5	59.6	59.5	59.3	59.2	59.1	59.2	59.3
63°	57.4	57.5	57.6	57.8	57.8	57.8	57.6	57.5	57.4	57.5	57.6
63.5°	55.6	55.7	55.8	56.0	56.1	56.0	55.8	55.7	55.6	55.7	55.8
64°	54.0	54.1	54.2	54.3	54.4	54.3	54.2	54.1	54.0	54.1	54.2
64.5°	52.4	52.5	52.6	52.7	52.8	52.7	52.6	52.5	52.4	52.5	52.6
65°	50.7	50.8	50.9	51.0	51.1	51.0	50.9	50.8	50.7	50.8	50.9
65.5°	49.2	49.2	49.3	49.5	49.5	49.5	49.3	49.2	49.2	49.2	49.3
66°	47.6	47.7	47.8	47.9	48.0	47.9	47.8	47.7	47.6	47.7	47.8



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	43.1	43.2	43.3	43.4	43.4	43.4	43.3	43.2	43.1	43.2	43.3
68°	41.6	41.7	41.8	41.9	41.9	41.9	41.8	41.7	41.6	41.7	41.8
68.5°	40.2	40.3	40.4	40.4	40.5	40.4	40.4	40.3	40.2	40.3	40.4
69°	38.9	38.9	38.9	39.1	39.1	39.1	38.9	38.9	38.9	38.9	38.9
69.5°	37.5	37.6	37.6	37.7	37.8	37.7	37.6	37.6	37.5	37.6	37.6
70°	36.2	36.3	36.2	36.3	36.4	36.3	36.2	36.3	36.2	36.3	36.2
70.5°	34.9	35.0	35.0	35.0	35.1	35.0	35.0	35.0	34.9	35.0	35.0
71°	33.7	33.7	33.7	33.7	33.8	33.7	33.7	33.7	33.7	33.7	33.7
71.5°	32.4	32.4	32.5	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.5
72°	31.1	31.1	31.1	31.2	31.2	31.2	31.1	31.1	31.1	31.1	31.1
72.5°	29.9	29.9	29.9	30.0	30.0	30.0	29.9	29.9	29.9	29.9	29.9
73°	28.7	28.7	28.7	28.8	28.8	28.8	28.7	28.7	28.7	28.7	28.7
73.5°	27.5	27.5	27.6	27.6	27.6	27.6	27.6	27.5	27.5	27.5	27.6
74°	26.3	26.3	26.3	26.4	26.4	26.4	26.3	26.3	26.3	26.3	26.3
74.5°	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
75°	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
75.5°	23.0	23.0	23.0	23.0	23.1	23.0	23.0	23.0	23.0	23.0	23.0
76°	21.9	21.8	21.8	21.9	21.9	21.9	21.8	21.8	21.9	21.8	21.8
76.5°	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
77°	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8
77.5°	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8
78°	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
78.5°	16.8	16.8	16.7	16.7	16.8	16.7	16.7	16.8	16.8	16.8	16.7
79°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
79.5°	14.9	14.9	14.8	14.9	14.9	14.9	14.8	14.9	14.9	14.9	14.8
80°	14.0	14.0	13.9	13.9	13.9	13.9	13.9	14.0	14.0	14.0	13.9
80.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
81°	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
81.5°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
82°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
82.5°	9.6	9.6	9.6	9.6	9.5	9.6	9.6	9.6	9.6	9.6	9.6
83°	8.8	8.8	8.8	8.7	8.7	8.7	8.8	8.8	8.8	8.8	8.8
83.5°	8.0	8.0	8.0	7.9	7.9	7.9	8.0	8.0	8.0	8.0	8.0
84°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
84.5°	6.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.4	6.3	6.3
85°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
85.5°	4.9	4.8	4.9	4.8	4.9	4.8	4.9	4.8	4.9	4.8	4.9
86°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
86.5°	3.5	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.5	3.4	3.4
87°	2.8	2.8	2.8	2.7	2.8	2.7	2.8	2.8	2.8	2.8	2.8
87.5°	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0
88°	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.3	1.4	1.4
88.5°	0.8	0.8	0.9	1.0	1.2	1.0	0.9	0.8	0.8	0.8	0.9



TEST NUMBER: P775661
CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-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	0.1	0.2	0.3	0.2	0.1	0.0	0.0	0.0	0.1



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	762.0	762.0	762.0	762.0	762.0	762.0
0.5°	761.7	761.4	761.7	761.8	762.0	762.1
1°	761.5	761.1	761.5	761.6	761.7	761.8
1.5°	761.0	760.7	761.0	761.2	761.2	761.4
2°	760.4	760.0	760.4	760.5	760.7	760.8
2.5°	759.6	759.1	759.6	759.7	759.9	760.1
3°	758.5	758.0	758.5	758.7	758.9	759.1
3.5°	757.3	756.9	757.3	757.5	757.8	758.0
4°	755.9	755.4	755.9	756.1	756.5	756.6
4.5°	754.4	753.8	754.4	754.6	755.0	755.2
5°	752.9	752.1	752.9	753.1	753.5	753.8
5.5°	750.8	750.2	750.8	751.0	751.5	752.2
6°	748.7	747.9	748.7	749.0	749.5	749.9
6.5°	746.3	745.5	746.3	746.6	747.2	747.6
7°	743.9	743.2	743.9	744.4	744.7	745.1
7.5°	741.3	740.6	741.3	741.5	741.9	742.3
8°	738.4	738.0	738.4	738.7	739.1	739.4
8.5°	735.2	734.8	735.2	735.5	735.9	736.3
9°	731.9	731.5	731.9	732.2	732.8	733.1
9.5°	728.5	728.1	728.5	728.8	729.3	729.5
10°	724.8	724.3	724.8	725.2	725.6	725.9
10.5°	720.9	720.5	720.9	721.2	721.7	721.9
11°	716.9	716.4	716.9	717.3	717.8	718.0
11.5°	712.8	712.3	712.8	713.2	713.6	713.8
12°	708.5	708.1	708.5	709.0	709.3	709.5
12.5°	704.0	703.5	704.0	704.5	704.8	705.0
13°	699.5	699.0	699.5	699.9	700.2	700.4
13.5°	694.8	694.4	694.8	695.2	695.4	695.6
14°	690.0	689.6	690.0	690.4	690.6	690.7
14.5°	685.0	684.6	685.0	685.4	685.5	685.6
15°	680.1	679.7	680.1	680.3	680.5	680.5
15.5°	675.2	675.0	675.2	675.4	675.2	675.2
16°	670.4	670.2	670.4	670.5	670.2	670.1
16.5°	665.6	665.5	665.6	665.6	665.2	665.0
17°	660.7	660.8	660.7	660.8	660.4	660.2
17.5°	655.9	655.8	655.9	656.0	655.7	655.5
18°	651.0	650.8	651.0	651.2	651.0	650.9
18.5°	645.8	645.5	645.8	646.0	646.0	646.0
19°	640.2	639.9	640.2	640.5	640.7	641.0
19.5°	634.3	634.0	634.3	634.5	635.1	635.5
20°	627.9	627.2	627.9	627.8	629.0	629.5
20.5°	621.1	620.3	621.1	620.7	622.0	622.8
21°	613.7	612.6	613.7	613.1	614.7	615.9



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	588.1	587.6	588.1	588.2	589.3	590.5
23°	578.9	578.7	578.9	579.6	579.8	580.8
23.5°	569.3	569.8	569.3	570.5	570.0	570.9
24°	559.5	560.4	559.5	561.1	559.9	560.6
24.5°	549.6	550.8	549.6	551.2	549.7	550.0
25°	539.7	540.6	539.7	540.9	539.1	538.9
25.5°	529.8	530.0	529.8	530.3	528.6	527.3
26°	519.5	518.6	519.5	519.4	517.8	515.5
26.5°	508.7	506.9	508.7	508.0	506.8	503.3
27°	497.7	495.0	497.7	496.6	495.4	491.5
27.5°	486.4	482.8	486.4	485.0	483.5	479.9
28°	474.6	470.7	474.6	473.1	471.7	468.2
28.5°	462.5	458.9	462.5	461.3	459.7	456.9
29°	450.3	447.8	450.3	449.5	447.5	445.7
29.5°	438.0	436.9	438.0	437.7	435.6	434.7
30°	425.8	425.9	425.8	425.7	423.3	423.6
30.5°	413.9	415.5	413.9	413.7	411.5	412.2
31°	402.1	404.4	402.1	401.7	399.3	400.9
31.5°	390.4	393.3	390.4	389.6	387.7	389.2
32°	378.8	381.9	378.8	377.7	376.0	377.4
32.5°	367.4	370.5	367.4	366.0	364.7	366.0
33°	356.0	358.8	356.0	353.9	353.5	354.4
33.5°	344.5	347.1	344.5	342.0	342.3	344.1
34°	333.3	336.0	333.3	330.1	331.1	333.0
34.5°	322.0	324.9	322.0	318.6	319.9	322.0
35°	311.1	314.2	311.1	307.7	309.1	310.9
35.5°	300.2	303.7	300.2	296.9	298.4	300.0
36°	289.8	293.4	289.8	286.4	287.7	289.4
36.5°	279.5	282.9	279.5	276.2	277.4	278.9
37°	269.5	272.5	269.5	266.2	267.2	268.3
37.5°	259.9	262.1	259.9	256.6	257.3	258.0
38°	250.5	251.8	250.5	247.4	247.7	247.8
38.5°	241.4	241.9	241.4	238.6	238.4	238.2
39°	232.5	232.4	232.5	229.8	229.4	228.9
39.5°	223.7	223.4	223.7	221.5	220.7	219.8
40°	215.2	214.8	215.2	213.4	212.2	211.2
40.5°	207.0	206.9	207.0	205.6	204.0	203.0
41°	199.2	199.5	199.2	198.3	196.2	195.1
41.5°	191.8	192.7	191.8	191.3	188.8	187.7
42°	184.8	186.0	184.8	184.5	181.9	180.7
42.5°	178.3	179.6	178.3	178.2	175.3	174.2
43°	172.2	173.4	172.2	172.0	169.2	168.0
43.5°	166.2	167.4	166.2	166.1	163.5	162.3



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	150.7	151.2	150.7	150.2	148.6	147.6
45.5°	146.1	146.6	146.1	145.6	144.1	143.3
46°	142.0	142.2	142.0	141.2	139.9	139.2
46.5°	137.9	138.1	137.9	137.1	136.0	135.4
47°	134.1	134.4	134.1	133.3	132.3	131.9
47.5°	130.6	131.0	130.6	129.7	128.8	128.5
48°	127.5	127.9	127.5	126.7	125.7	125.3
48.5°	124.5	124.8	124.5	123.7	123.0	122.8
49°	121.6	122.0	121.6	121.0	120.4	120.3
49.5°	119.0	119.1	119.0	118.5	118.1	118.0
50°	116.3	116.4	116.3	115.9	115.6	115.5
50.5°	113.8	113.8	113.8	113.4	113.2	113.1
51°	111.2	111.2	111.2	110.8	110.5	110.3
51.5°	108.7	108.8	108.7	108.2	107.8	107.7
52°	106.0	106.1	106.0	105.5	105.1	104.9
52.5°	103.3	103.5	103.3	102.9	102.4	102.2
53°	100.6	100.8	100.6	100.2	99.8	99.6
53.5°	98.1	98.3	98.1	97.6	97.2	97.0
54°	95.4	95.6	95.4	95.0	94.6	94.5
54.5°	93.0	93.2	93.0	92.6	92.2	92.1
55°	90.5	90.6	90.5	90.2	89.8	89.6
55.5°	88.2	88.3	88.2	87.9	87.5	87.3
56°	85.8	85.9	85.8	85.5	85.2	85.0
56.5°	83.6	83.7	83.6	83.3	83.0	82.8
57°	81.3	81.4	81.3	81.0	80.7	80.5
57.5°	79.1	79.3	79.1	78.9	78.6	78.3
58°	77.1	77.2	77.1	76.7	76.4	76.3
58.5°	74.9	75.0	74.9	74.7	74.4	74.3
59°	72.8	73.0	72.8	72.6	72.4	72.3
59.5°	70.8	70.9	70.8	70.5	70.3	70.2
60°	68.8	68.9	68.8	68.6	68.4	68.3
60.5°	66.8	66.9	66.8	66.6	66.4	66.3
61°	65.0	65.1	65.0	64.8	64.6	64.5
61.5°	63.2	63.3	63.2	63.0	62.8	62.7
62°	61.3	61.3	61.3	61.1	60.9	60.9
62.5°	59.5	59.6	59.5	59.3	59.2	59.1
63°	57.8	57.8	57.8	57.6	57.5	57.4
63.5°	56.0	56.1	56.0	55.8	55.7	55.6
64°	54.3	54.4	54.3	54.2	54.1	54.0
64.5°	52.7	52.8	52.7	52.6	52.5	52.4
65°	51.0	51.1	51.0	50.9	50.8	50.7
65.5°	49.5	49.5	49.5	49.3	49.2	49.2
66°	47.9	48.0	47.9	47.8	47.7	47.6



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	43.4	43.4	43.4	43.3	43.2	43.1
68°	41.9	41.9	41.9	41.8	41.7	41.6
68.5°	40.4	40.5	40.4	40.4	40.3	40.2
69°	39.1	39.1	39.1	38.9	38.9	38.9
69.5°	37.7	37.8	37.7	37.6	37.6	37.5
70°	36.3	36.4	36.3	36.2	36.3	36.2
70.5°	35.0	35.1	35.0	35.0	35.0	34.9
71°	33.7	33.8	33.7	33.7	33.7	33.7
71.5°	32.5	32.5	32.5	32.5	32.4	32.4
72°	31.2	31.2	31.2	31.1	31.1	31.1
72.5°	30.0	30.0	30.0	29.9	29.9	29.9
73°	28.8	28.8	28.8	28.7	28.7	28.7
73.5°	27.6	27.6	27.6	27.6	27.5	27.5
74°	26.4	26.4	26.4	26.3	26.3	26.3
74.5°	25.2	25.2	25.2	25.2	25.2	25.2
75°	24.1	24.1	24.1	24.1	24.1	24.1
75.5°	23.0	23.1	23.0	23.0	23.0	23.0
76°	21.9	21.9	21.9	21.8	21.8	21.9
76.5°	20.8	20.8	20.8	20.8	20.8	20.8
77°	19.8	19.8	19.8	19.8	19.8	19.8
77.5°	18.8	18.8	18.8	18.8	18.8	18.8
78°	17.8	17.8	17.8	17.8	17.8	17.8
78.5°	16.7	16.8	16.7	16.7	16.8	16.8
79°	15.8	15.8	15.8	15.8	15.8	15.8
79.5°	14.9	14.9	14.9	14.8	14.9	14.9
80°	13.9	13.9	13.9	13.9	14.0	14.0
80.5°	13.1	13.1	13.1	13.1	13.1	13.1
81°	12.1	12.1	12.1	12.1	12.1	12.1
81.5°	11.2	11.2	11.2	11.2	11.2	11.2
82°	10.4	10.4	10.4	10.4	10.4	10.4
82.5°	9.6	9.5	9.6	9.6	9.6	9.6
83°	8.7	8.7	8.7	8.8	8.8	8.8
83.5°	7.9	7.9	7.9	8.0	8.0	8.0
84°	7.1	7.1	7.1	7.1	7.1	7.1
84.5°	6.3	6.3	6.3	6.3	6.3	6.4
85°	5.6	5.6	5.6	5.6	5.6	5.6
85.5°	4.8	4.9	4.8	4.9	4.8	4.9
86°	4.1	4.1	4.1	4.1	4.1	4.1
86.5°	3.4	3.5	3.4	3.4	3.4	3.5
87°	2.7	2.8	2.7	2.8	2.8	2.8
87.5°	2.0	2.1	2.0	2.0	2.0	2.0
88°	1.5	1.5	1.5	1.4	1.4	1.3
88.5°	1.0	1.2	1.0	0.9	0.8	0.8



TEST NUMBER: P775661

CATALOG NUMBER: HCDJBL510CSD-HCD42TRMW-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.2	0.3	0.2	0.1	0.0	0.0



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Peachtree City, GA 30269

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

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21.5°	607.8	606.8	605.1	605.6	604.6	605.6	605.1	606.8	607.8	606.8	605.1
22°	599.4	598.3	596.8	597.0	596.0	597.0	596.8	598.3	599.4	598.3	596.8



44°	157.0	158.2	160.5	160.7	161.8	160.7	160.5	158.2	157.0	158.2	160.5
44.5°	152.1	153.3	155.3	155.6	156.3	155.6	155.3	153.3	152.1	153.3	155.3



66.5°	46.0	46.1	46.2	46.3	46.4	46.3	46.2	46.1	46.0	46.1	46.2
67°	44.6	44.6	44.7	44.8	44.9	44.8	44.7	44.6	44.6	44.6	44.7



89°	0.3	0.4	0.6	0.7	0.8	0.7	0.6	0.4	0.3	0.4	0.6
89.5°	0.0	0.1	0.3	0.4	0.5	0.4	0.3	0.1	0.0	0.1	0.3

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21.5°	605.6	604.6	605.6	605.1	606.8	607.8
22°	597.0	596.0	597.0	596.8	598.3	599.4



44°	160.7	161.8	160.7	160.5	158.2	157.0
44.5°	155.6	156.3	155.6	155.3	153.3	152.1



66.5°	46.3	46.4	46.3	46.2	46.1	46.0
67°	44.8	44.9	44.8	44.7	44.6	44.6



89°	0.7	0.8	0.7	0.6	0.4	0.3
89.5°	0.4	0.5	0.4	0.3	0.1	0.0

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(END OF REPORT)