

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: P775632

Luminaire Tested: HCDJBS510CSD-HCD41TRMB-1000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775632
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-3500K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 946.2 lumens
Efficiency: N/A
Efficacy: 94.6 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

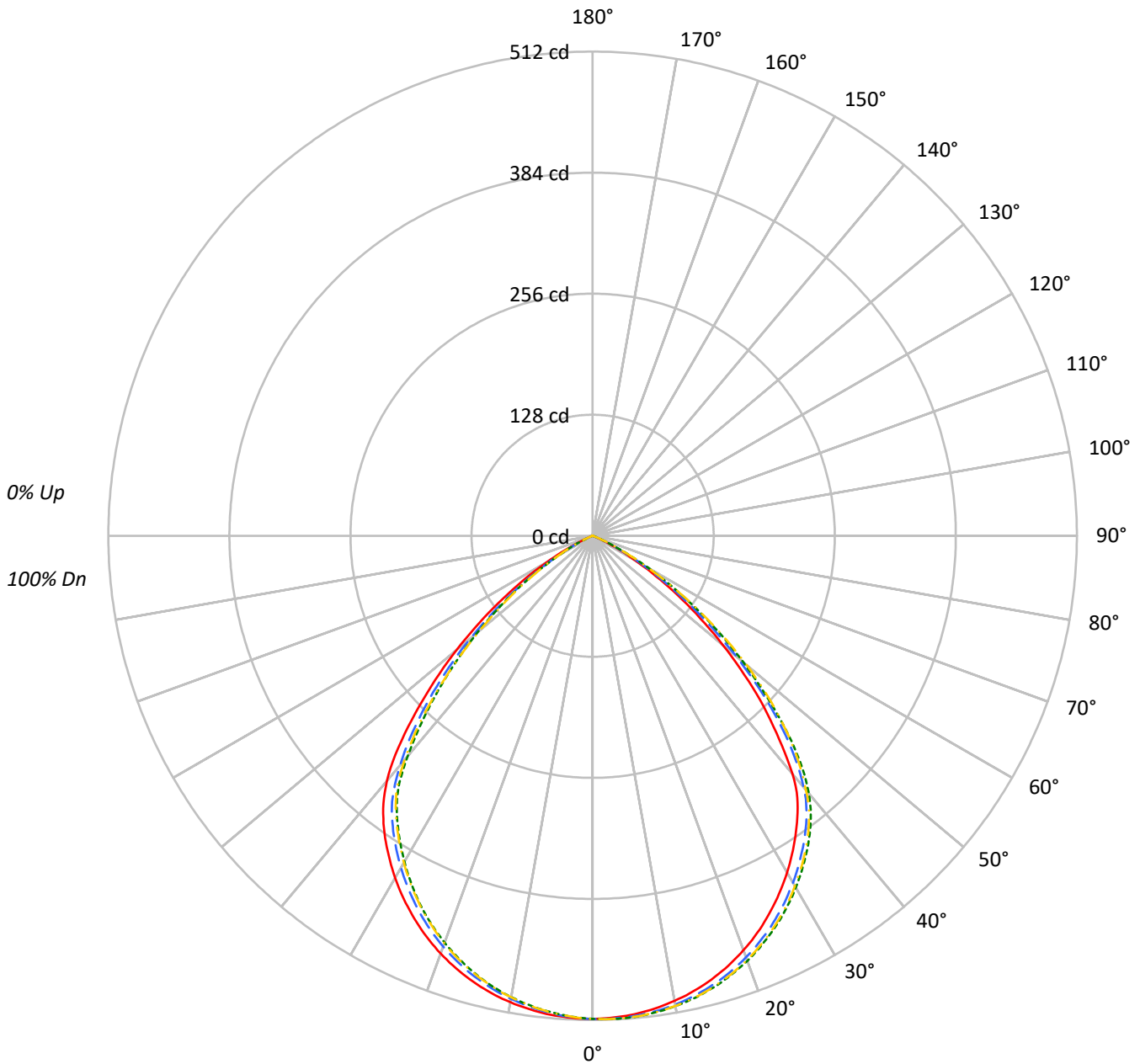
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	64297	64297	64297	64297
5°	64151	64517	64226	63885
10°	63819	64547	64011	63295
15°	63282	64415	63607	62461
20°	62463	64057	62932	61312
25°	61279	63403	61987	59807
30°	59755	62429	60685	57822
35°	57766	61070	58949	55401
40°	53984	58420	55561	49959
45°	45545	51169	47111	41042
50°	35242	40665	36710	30934
55°	24201	29116	25386	20449
60°	13088	17166	14171	10320
65°	4020	6194	4407	2769
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: 51560 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.3	5.1
10°-20°	137.3	14.5
20°-30°	204.2	21.6
30°-40°	236.0	24.9
40°-50°	199.1	21.0
50°-60°	101.3	10.7
60°-70°	19.0	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°	389.7	41.2
0°-40°	625.7	66.1
0°-60°	926.2	97.9
0°-90°	946.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	946.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	511	511	511	511	511	
5°	508	511	508	506	508	48
15°	486	494	488	479	486	137
25°	441	457	446	431	441	203
35°	376	398	384	361	376	234
45°	256	288	265	231	256	196
55°	110	133	116	93	110	99
65°	14	21	15	9	14	18
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	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°	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9
0.5°	510.8	510.8	511.0	511.1	511.2	511.2	511.2	510.8	510.7	510.8	510.7
1°	510.7	510.9	511.1	511.2	511.3	511.3	511.3	510.9	510.7	510.7	510.5
1.5°	510.5	510.8	511.1	511.3	511.3	511.3	511.4	511.0	510.6	510.4	510.1
2°	510.3	510.7	511.0	511.4	511.4	511.6	511.5	511.0	510.5	510.1	509.7
2.5°	509.8	510.4	510.9	511.4	511.4	511.5	511.3	510.9	510.3	509.8	509.4
3°	509.5	510.1	510.7	511.2	511.4	511.5	511.3	510.6	510.0	509.5	508.9
3.5°	509.1	509.8	510.6	511.1	511.2	511.4	511.3	510.5	509.6	509.0	508.5
4°	508.8	509.5	510.3	510.9	511.1	511.3	511.1	510.4	509.3	508.6	508.0
4.5°	508.3	509.1	510.0	510.6	510.9	511.1	510.8	510.1	508.9	508.0	507.2
5°	507.8	508.7	509.6	510.4	510.7	510.8	510.5	509.7	508.4	507.5	506.6
5.5°	507.1	508.2	509.2	510.0	510.3	510.6	510.3	509.3	508.0	506.9	505.9
6°	506.4	507.7	508.9	509.6	509.9	510.1	509.8	508.9	507.4	506.2	505.2
6.5°	505.7	507.0	508.3	509.2	509.5	509.7	509.3	508.5	506.7	505.6	504.4
7°	505.1	506.4	507.8	508.8	509.0	509.2	508.8	508.0	506.0	504.7	503.6
7.5°	504.2	505.7	507.1	508.2	508.4	508.8	508.3	507.4	505.3	503.9	502.7
8°	503.4	505.0	506.5	507.7	507.9	508.2	507.7	506.6	504.4	503.0	501.8
8.5°	502.5	504.1	505.8	506.9	507.2	507.6	507.0	505.9	503.6	502.1	500.7
9°	501.4	503.3	505.1	506.2	506.5	506.9	506.4	505.2	502.8	501.1	499.6
9.5°	500.4	502.4	504.2	505.5	505.8	506.2	505.6	504.4	502.0	500.1	498.4
10°	499.4	501.4	503.3	504.8	505.1	505.5	504.9	503.6	500.9	499.1	497.3
10.5°	498.2	500.4	502.4	503.8	504.2	504.7	503.9	502.7	499.9	497.9	496.1
11°	497.1	499.3	501.4	502.9	503.3	503.7	503.1	501.8	498.9	496.7	494.8
11.5°	496.0	498.1	500.4	502.0	502.4	502.8	502.1	500.7	497.7	495.4	493.5
12°	494.5	497.0	499.3	500.9	501.4	501.8	501.1	499.6	496.5	494.2	492.0
12.5°	493.3	495.7	498.1	499.9	500.4	500.7	500.0	498.4	495.1	492.8	490.6
13°	491.8	494.5	496.9	498.9	499.3	499.7	499.0	497.4	493.9	491.4	489.0
13.5°	490.5	493.2	495.6	497.6	498.1	498.4	497.7	496.2	492.5	489.9	487.5
14°	488.9	491.7	494.4	496.4	496.9	497.4	496.6	494.8	491.1	488.5	485.9
14.5°	487.4	490.3	492.9	495.1	495.6	496.1	495.2	493.5	489.7	486.9	484.1
15°	485.7	488.7	491.5	493.8	494.4	494.8	493.9	492.1	488.2	485.3	482.4
15.5°	484.0	486.9	490.1	492.3	493.1	493.4	492.4	490.6	486.6	483.6	480.7
16°	482.3	485.5	488.6	490.9	491.6	492.0	491.0	489.1	485.0	481.9	479.0
16.5°	480.5	483.8	486.9	489.4	490.0	490.5	489.5	487.6	483.3	480.1	477.0
17°	478.8	482.1	485.4	487.9	488.6	488.9	488.0	486.0	481.5	478.3	475.0
17.5°	476.8	480.2	483.7	486.2	486.9	487.2	486.3	484.3	479.7	476.4	472.9
18°	474.7	478.3	481.9	484.6	485.3	485.6	484.7	482.5	477.8	474.4	470.9
18.5°	472.7	476.5	480.0	482.9	483.5	484.0	482.9	480.7	476.1	472.4	468.8
19°	470.7	474.4	478.2	481.0	481.9	482.3	481.0	479.0	474.1	470.4	466.7
19.5°	468.6	472.4	476.3	479.3	480.1	480.4	479.2	477.1	472.1	468.3	464.5
20°	466.4	470.4	474.3	477.4	478.3	478.5	477.3	475.1	469.9	466.1	462.2
20.5°	464.1	468.3	472.3	475.4	476.4	476.7	475.3	473.2	468.0	463.9	459.8
21°	461.9	466.0	470.3	473.5	474.5	474.8	473.4	471.1	465.7	461.5	457.4



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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°	454.6	459.2	463.6	467.1	468.1	468.4	466.9	464.7	458.9	454.4	449.9
23°	452.1	456.8	461.3	465.0	465.9	466.2	464.8	462.4	456.5	452.0	447.4
23.5°	449.5	454.2	459.1	462.8	463.7	463.8	462.5	460.0	454.1	449.4	444.6
24°	446.8	451.7	456.7	460.4	461.3	461.7	460.1	457.7	451.6	446.8	442.0
24.5°	444.1	449.2	454.2	458.0	459.1	459.2	457.7	455.2	449.1	444.2	439.2
25°	441.3	446.6	451.6	455.5	456.6	456.8	455.2	452.7	446.4	441.4	436.4
25.5°	438.5	443.9	449.1	453.2	454.2	454.3	452.7	450.3	443.7	438.8	433.4
26°	435.7	441.1	446.4	450.6	451.7	451.8	450.3	447.7	441.0	435.8	430.5
26.5°	432.9	438.3	443.8	448.0	449.1	449.1	447.6	445.0	438.2	432.9	427.5
27°	429.9	435.5	441.0	445.4	446.4	446.5	444.9	442.3	435.4	430.1	424.5
27.5°	426.9	432.6	438.3	442.8	443.7	443.8	442.2	439.5	432.6	427.1	421.3
28°	423.8	429.7	435.5	440.0	441.1	441.2	439.5	436.7	429.8	424.1	418.1
28.5°	420.7	426.6	432.5	437.2	438.3	438.3	436.7	433.8	426.8	421.1	415.0
29°	417.6	423.6	429.5	434.3	435.5	435.4	433.7	431.0	423.7	417.9	411.9
29.5°	414.4	420.5	426.6	431.5	432.6	432.5	430.8	428.1	420.7	414.8	408.5
30°	411.2	417.5	423.6	428.6	429.6	429.6	427.8	425.0	417.6	411.6	405.1
30.5°	407.9	414.3	420.5	425.6	426.7	426.4	424.8	422.0	414.5	408.4	401.9
31°	404.6	411.1	417.4	422.4	423.6	423.4	421.5	418.9	411.2	405.1	398.4
31.5°	401.0	407.8	414.2	419.4	420.5	420.3	418.4	415.7	407.9	401.7	394.9
32°	397.6	404.5	411.0	416.3	417.4	417.2	415.3	412.5	404.6	398.3	391.5
32.5°	394.1	400.9	407.7	413.1	414.1	413.9	412.1	409.3	401.2	394.8	387.8
33°	390.6	397.5	404.3	409.7	411.0	410.6	408.9	406.0	397.9	391.4	384.2
33.5°	387.0	394.0	400.9	406.5	407.7	407.2	405.6	402.6	394.4	387.9	380.5
34°	383.4	390.6	397.6	403.1	404.3	404.0	402.1	399.3	390.9	384.1	377.0
34.5°	379.7	386.9	394.1	399.8	400.9	400.5	398.5	395.7	387.4	380.5	373.1
35°	376.0	383.3	390.5	396.2	397.5	397.1	395.0	392.1	383.7	376.8	369.2
35.5°	372.0	379.6	386.8	392.7	393.9	393.6	391.5	388.6	380.0	372.9	365.1
36°	368.3	375.9	383.2	389.0	390.4	389.9	387.8	385.0	376.1	368.9	361.0
36.5°	364.2	372.0	379.5	385.4	386.7	386.2	384.0	381.1	372.0	364.8	356.8
37°	360.2	368.1	375.6	381.5	382.8	382.3	380.1	377.2	368.0	360.6	352.3
37.5°	355.9	363.8	371.5	377.5	378.8	378.2	376.2	373.2	363.6	356.1	346.9
38°	351.5	359.6	367.2	373.5	374.6	374.1	372.0	368.9	359.0	351.1	341.3
38.5°	346.5	354.8	362.9	369.1	370.3	369.6	367.2	364.5	354.2	345.7	335.4
39°	341.1	349.5	358.1	364.8	365.6	364.8	362.1	359.6	349.1	340.0	329.4
39.5°	335.2	343.7	352.7	360.0	360.8	359.4	356.6	354.3	343.7	334.2	323.1
40°	328.6	337.6	346.9	354.9	355.6	353.7	351.0	348.6	338.2	328.0	316.7
40.5°	321.2	331.4	341.0	349.5	350.0	348.0	345.1	342.8	332.1	321.7	309.9
41°	314.1	325.0	334.9	343.7	344.2	342.0	339.2	336.8	325.7	315.2	303.2
41.5°	306.8	318.3	328.5	337.6	338.0	336.0	333.3	330.5	318.6	308.5	296.3
42°	299.5	311.3	322.2	331.0	331.4	329.7	327.2	324.0	311.7	301.7	289.1
42.5°	292.2	304.2	315.4	324.1	324.8	323.5	321.0	317.6	304.1	294.6	281.7
43°	285.1	297.1	308.6	317.2	317.8	317.1	314.6	310.6	296.4	287.3	274.2
43.5°	277.7	289.7	301.6	309.8	310.6	310.5	308.0	303.7	288.5	279.7	266.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	255.9	267.3	279.1	286.2	287.5	289.7	287.6	281.8	264.7	256.5	243.9
45.5°	248.5	259.6	271.1	277.7	279.4	282.6	280.3	274.4	256.8	248.5	236.4
46°	241.0	252.1	263.3	269.5	271.3	275.1	273.2	266.5	248.9	240.2	228.8
46.5°	233.5	244.5	255.2	261.3	263.2	267.8	266.0	259.1	240.9	232.0	221.1
47°	225.7	236.9	247.3	253.0	254.9	260.0	258.4	251.0	233.4	223.8	213.7
47.5°	217.9	229.3	239.2	244.5	246.9	252.3	251.1	243.1	225.7	215.7	206.0
48°	210.3	221.7	230.7	236.3	239.1	244.6	243.3	235.2	218.0	207.7	198.5
48.5°	202.5	213.9	222.4	228.1	231.2	236.8	235.9	228.0	210.4	199.4	191.1
49°	194.9	206.4	214.0	220.0	223.2	228.9	228.0	219.8	202.7	191.4	183.5
49.5°	187.4	198.8	205.8	211.9	215.3	220.9	220.4	212.0	195.0	183.4	176.0
50°	180.0	191.0	197.5	204.1	207.7	212.8	212.4	204.2	187.5	175.7	168.4
50.5°	172.5	183.2	189.3	196.0	199.9	204.9	204.6	196.7	179.9	167.9	160.7
51°	165.4	175.3	181.0	188.2	192.1	196.9	196.4	189.2	172.6	160.4	153.4
51.5°	158.0	167.8	173.2	180.3	184.5	189.0	188.8	181.8	165.1	153.0	146.0
52°	151.0	160.0	165.4	172.7	176.9	181.0	180.8	174.3	157.7	145.7	138.7
52.5°	144.0	152.5	157.8	164.8	169.2	173.3	173.0	166.7	150.6	138.5	131.4
53°	137.1	145.1	150.0	157.6	161.8	165.5	165.2	159.5	143.4	131.6	124.2
53.5°	130.2	137.7	142.6	150.2	154.4	157.8	157.5	152.2	136.3	124.7	117.3
54°	123.3	130.3	135.3	142.8	147.0	150.3	149.7	145.1	129.3	118.1	110.6
54.5°	116.7	123.0	128.2	135.2	139.7	142.7	142.2	137.9	122.6	111.9	104.0
55°	110.3	116.1	121.2	128.5	132.7	135.3	134.8	131.0	115.7	105.3	97.5
55.5°	103.8	109.0	114.3	121.7	125.8	128.1	127.3	123.9	109.1	98.9	91.6
56°	97.5	102.4	107.7	114.7	118.8	120.9	120.0	117.3	102.6	93.1	85.6
56.5°	91.3	95.9	101.1	107.8	111.9	113.8	113.0	110.4	96.5	87.3	79.7
57°	85.3	89.3	94.8	101.7	105.3	107.0	106.1	103.8	90.5	81.6	73.7
57.5°	79.4	83.1	88.6	95.2	98.9	100.3	99.4	97.5	84.5	75.8	68.2
58°	73.5	77.1	82.4	89.0	92.6	93.9	93.1	91.3	78.3	69.9	62.8
58.5°	68.0	71.3	76.5	83.0	86.4	87.5	86.6	85.0	72.3	64.8	57.7
59°	62.4	65.8	70.9	77.2	80.2	81.0	80.3	78.7	66.7	59.4	52.8
59.5°	57.2	60.4	65.4	71.6	74.1	74.6	74.0	72.4	61.6	54.5	48.2
60°	52.0	55.1	60.0	66.1	68.2	68.8	68.1	66.7	56.3	49.6	43.7
60.5°	47.3	50.3	54.8	60.9	62.7	63.1	62.5	61.1	51.2	45.1	39.3
61°	42.5	45.4	50.1	55.6	57.2	57.6	56.9	55.5	46.3	40.5	35.2
61.5°	38.0	40.9	45.3	50.7	51.9	52.2	51.6	50.4	41.9	36.4	31.5
62°	34.2	36.6	40.8	46.0	46.8	47.1	46.6	45.3	37.2	32.2	27.7
62.5°	30.5	33.1	36.6	41.3	41.9	42.3	41.8	40.2	33.0	28.4	24.2
63°	26.6	29.5	33.1	37.0	37.2	37.6	37.1	35.4	28.8	24.8	21.0
63.5°	22.9	26.0	29.5	33.2	32.7	33.2	32.6	31.1	25.0	21.5	18.1
64°	19.2	22.5	26.0	29.3	28.5	28.9	28.6	26.9	21.3	18.2	15.3
64.5°	16.2	19.1	22.5	25.6	24.5	25.0	24.7	23.0	18.0	15.3	12.8
65°	13.5	16.2	19.0	21.8	20.8	21.3	21.0	19.4	14.8	13.3	11.0
65.5°	11.2	13.6	16.1	18.0	17.4	17.8	17.6	16.2	12.4	11.1	9.2
66°	9.1	11.1	13.4	14.9	14.3	14.7	14.5	13.8	10.2	8.9	7.5



TEST NUMBER: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.5	5.5	6.9	7.4	7.8	8.1	7.9	6.8	3.1	3.4	2.8
68°	3.7	4.1	5.3	5.5	5.6	5.8	5.6	4.6	1.9	2.4	2.0
68.5°	3.1	3.3	3.8	4.0	3.5	3.6	3.4	3.1	1.2	1.6	1.5
69°	2.4	2.6	3.1	3.3	2.4	2.5	2.3	2.1	1.1	1.2	1.1
69.5°	1.8	1.9	2.5	2.6	1.7	1.7	1.6	1.5	1.1	1.1	1.1
70°	1.0	1.1	1.8	1.8	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: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	510.9	510.9	510.9	510.9	510.9	510.9
0.5°	510.6	510.6	510.8	510.7	510.5	510.8
1°	510.3	510.3	510.5	510.4	510.3	510.7
1.5°	509.8	509.8	510.0	510.0	509.9	510.5
2°	509.5	509.4	509.5	509.6	509.4	510.3
2.5°	509.1	508.9	509.1	509.0	509.0	509.8
3°	508.6	508.4	508.5	508.5	508.6	509.5
3.5°	508.0	507.9	507.9	508.0	508.1	509.1
4°	507.4	507.2	507.2	507.4	507.6	508.8
4.5°	506.6	506.5	506.5	506.6	506.9	508.3
5°	505.9	505.7	505.7	505.9	506.2	507.8
5.5°	505.2	505.0	504.9	505.1	505.6	507.1
6°	504.3	504.0	503.9	504.3	504.8	506.4
6.5°	503.5	503.2	503.0	503.4	503.9	505.7
7°	502.6	502.3	502.2	502.5	503.1	505.1
7.5°	501.5	501.2	501.1	501.4	502.3	504.2
8°	500.5	500.1	500.1	500.3	501.2	503.4
8.5°	499.4	499.1	499.0	499.3	500.1	502.5
9°	498.2	497.8	497.7	498.1	499.0	501.4
9.5°	497.1	496.6	496.5	496.9	497.8	500.4
10°	495.8	495.3	495.1	495.6	496.6	499.4
10.5°	494.5	494.1	493.9	494.4	495.4	498.2
11°	493.2	492.7	492.5	493.1	494.0	497.1
11.5°	491.7	491.2	491.1	491.5	492.6	496.0
12°	490.3	489.7	489.5	490.0	491.3	494.5
12.5°	488.8	488.2	488.0	488.5	489.7	493.3
13°	487.1	486.5	486.2	486.9	488.2	491.8
13.5°	485.5	484.9	484.6	485.3	486.6	490.5
14°	483.8	483.1	482.9	483.6	485.0	488.9
14.5°	482.1	481.3	481.0	481.9	483.3	487.4
15°	480.2	479.4	479.2	479.9	481.4	485.7
15.5°	478.3	477.5	477.3	478.0	479.6	484.0
16°	476.4	475.5	475.4	476.2	477.7	482.3
16.5°	474.5	473.6	473.4	474.2	475.7	480.5
17°	472.4	471.4	471.2	472.1	473.8	478.8
17.5°	470.4	469.3	469.1	470.0	471.7	476.8
18°	468.2	467.1	466.9	467.8	469.7	474.7
18.5°	465.9	464.9	464.7	465.6	467.6	472.7
19°	463.7	462.6	462.3	463.3	465.2	470.7
19.5°	461.3	460.2	460.0	460.9	463.0	468.6
20°	459.0	457.8	457.6	458.5	460.8	466.4
20.5°	456.6	455.3	455.0	456.1	458.3	464.1
21°	454.1	452.7	452.5	453.6	455.8	461.9



TEST NUMBER: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	446.2	445.0	444.6	445.6	448.3	454.6
23°	443.5	442.3	441.9	443.0	445.5	452.1
23.5°	440.7	439.4	439.1	440.2	442.7	449.5
24°	437.9	436.5	436.1	437.4	440.0	446.8
24.5°	435.0	433.6	433.2	434.4	437.2	444.1
25°	432.1	430.7	430.3	431.5	434.4	441.3
25.5°	429.1	427.6	427.1	428.4	431.4	438.5
26°	426.1	424.5	424.0	425.4	428.4	435.7
26.5°	422.9	421.3	420.9	422.4	425.3	432.9
27°	419.9	418.1	417.8	419.2	422.2	429.9
27.5°	416.6	414.9	414.5	416.0	419.1	426.9
28°	413.4	411.5	411.2	412.6	415.8	423.8
28.5°	410.0	408.3	407.9	409.4	412.5	420.7
29°	406.7	405.0	404.5	406.0	409.3	417.6
29.5°	403.2	401.5	401.0	402.7	406.0	414.4
30°	399.9	397.9	397.6	399.2	402.7	411.2
30.5°	396.3	394.5	394.0	395.7	399.2	407.9
31°	392.7	390.9	390.4	392.0	395.6	404.6
31.5°	389.2	387.4	386.7	388.6	392.2	401.0
32°	385.6	383.6	383.0	385.1	388.7	397.6
32.5°	381.9	380.0	379.5	381.3	385.2	394.1
33°	378.0	376.3	375.7	377.5	381.4	390.6
33.5°	374.3	372.4	371.9	373.9	377.6	387.0
34°	370.5	368.5	368.1	370.2	373.9	383.4
34.5°	366.6	364.7	364.1	366.2	370.2	379.7
35°	362.6	360.6	360.2	362.2	366.1	376.0
35.5°	358.3	356.6	356.2	358.2	362.4	372.0
36°	354.2	352.2	351.9	354.2	358.3	368.3
36.5°	349.7	347.8	347.6	349.9	354.0	364.2
37°	344.9	343.1	343.0	345.3	349.6	360.2
37.5°	339.2	337.7	337.9	340.7	345.3	355.9
38°	333.1	331.7	332.0	335.1	339.8	351.5
38.5°	326.7	325.1	325.8	329.0	334.0	346.5
39°	319.9	318.4	319.3	322.7	328.0	341.1
39.5°	312.8	311.4	312.4	316.0	321.6	335.2
40°	305.7	304.1	305.3	309.0	314.8	328.6
40.5°	298.4	296.7	297.9	302.0	307.6	321.2
41°	291.4	289.3	290.7	294.9	300.2	314.1
41.5°	284.2	281.7	283.1	287.5	292.4	306.8
42°	277.1	274.6	275.6	280.1	284.9	299.5
42.5°	270.2	267.1	268.1	272.6	277.2	292.2
43°	263.1	260.0	260.3	265.0	269.2	285.1
43.5°	256.2	252.3	252.5	257.2	261.4	277.7



TEST NUMBER: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	234.6	230.6	229.1	233.3	238.5	255.9
45.5°	227.3	223.1	221.3	225.3	230.8	248.5
46°	219.8	216.0	214.0	217.3	223.3	241.0
46.5°	212.1	208.3	206.3	209.3	215.7	233.5
47°	204.7	201.2	198.8	201.3	208.3	225.7
47.5°	197.2	193.6	191.1	193.5	200.6	217.9
48°	189.6	186.6	183.9	185.7	193.2	210.3
48.5°	182.3	179.2	176.4	177.8	185.7	202.5
49°	175.0	172.1	169.2	170.4	178.3	194.9
49.5°	167.7	165.1	161.9	162.9	171.0	187.4
50°	160.4	158.0	154.7	155.4	163.6	180.0
50.5°	153.6	151.1	147.6	148.2	156.5	172.5
51°	146.6	144.1	140.7	141.2	149.4	165.4
51.5°	139.7	137.5	133.8	134.3	142.3	158.0
52°	132.7	130.9	127.1	127.6	135.5	151.0
52.5°	126.2	124.4	120.4	120.8	128.7	144.0
53°	119.5	117.7	114.1	114.5	122.1	137.1
53.5°	112.8	111.4	107.6	108.3	115.4	130.2
54°	106.3	105.1	101.4	102.1	109.0	123.3
54.5°	100.2	99.1	95.5	96.2	102.7	116.7
55°	94.2	93.2	89.7	90.5	96.7	110.3
55.5°	88.3	87.1	84.1	84.9	90.6	103.8
56°	82.4	81.3	78.5	79.5	84.7	97.5
56.5°	76.5	75.8	73.2	74.2	78.9	91.3
57°	70.6	70.3	68.1	69.0	73.5	85.3
57.5°	65.2	65.0	63.1	64.0	68.0	79.4
58°	59.8	59.7	58.3	59.4	62.9	73.5
58.5°	54.6	54.7	53.8	54.8	57.7	68.0
59°	49.6	49.9	49.3	50.4	53.1	62.4
59.5°	44.9	45.4	45.2	46.1	48.5	57.2
60°	40.4	41.0	41.1	42.2	44.1	52.0
60.5°	36.2	36.6	37.2	38.1	39.8	47.3
61°	32.1	33.1	33.9	34.9	35.8	42.5
61.5°	28.2	29.6	30.6	31.6	32.3	38.0
62°	24.6	26.1	27.3	28.3	28.8	34.2
62.5°	21.3	22.6	23.9	25.0	25.3	30.5
63°	18.2	19.2	20.6	21.7	21.9	26.6
63.5°	15.4	16.3	17.8	18.9	18.9	22.9
64°	12.8	13.7	15.2	16.3	16.2	19.2
64.5°	11.1	11.4	12.8	13.8	13.5	16.2
65°	9.4	9.3	10.8	11.5	11.3	13.5
65.5°	7.7	7.6	8.8	9.4	9.2	11.2
66°	6.0	6.0	6.9	7.7	7.4	9.1



TEST NUMBER: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	2.4	3.0	3.3	3.3	3.3	4.5
68°	1.8	2.4	2.6	2.8	2.4	3.7
68.5°	1.3	1.8	1.9	2.2	2.2	3.1
69°	1.1	1.1	1.1	1.7	1.9	2.4
69.5°	1.1	1.1	1.0	1.1	1.6	1.8
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: P775632

CATALOG NUMBER: HCDJBL510CSD-HCD41TRMB-1000lm-3500K

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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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°	459.5	463.8	468.2	471.4	472.3	472.6	471.2	469.0	463.5	459.3	455.0
22°	457.1	461.5	465.9	469.3	470.3	470.5	469.2	466.9	461.1	457.0	452.5



44°	270.6	282.4	294.2	302.1	303.2	303.7	301.3	296.6	280.6	272.0	259.2
44.5°	263.2	274.7	286.5	294.2	295.2	296.9	294.7	289.6	272.5	264.3	251.6



66.5°	7.3	9.0	11.0	12.1	12.1	12.5	12.2	11.5	7.8	6.8	5.6
67°	5.8	7.2	8.8	9.5	9.9	10.3	10.1	9.1	5.5	4.7	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°	451.5	450.3	449.8	451.0	453.3	459.5
22°	448.9	447.7	447.2	448.3	450.8	457.1



44°	248.9	245.2	244.7	249.2	253.8	270.6
44.5°	241.9	237.7	236.9	241.2	246.2	263.2



66.5°	4.4	4.8	5.4	6.0	5.7	7.3
67°	3.3	3.6	4.0	4.6	4.5	5.8

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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)