

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

Report Number: P639480

Luminaire Tested: RL4LS9FSD2W1EWHDM -600LM -3000K

Issue Date: 1/25/2023

Test Information

Test Method: LM-79-2019
Report Number: P639480
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2206549A001)
Test Lab:
Issue Date: 1/25/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: RL4LS9FSD2W1EWHDM -600LM -3000K
Description: 4IN DIRECT MOUNT, SELECTABLE LUMEN AND CCT, MATTE WHITE BAFFLE
Light Source: (1) SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 695.0 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.2
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

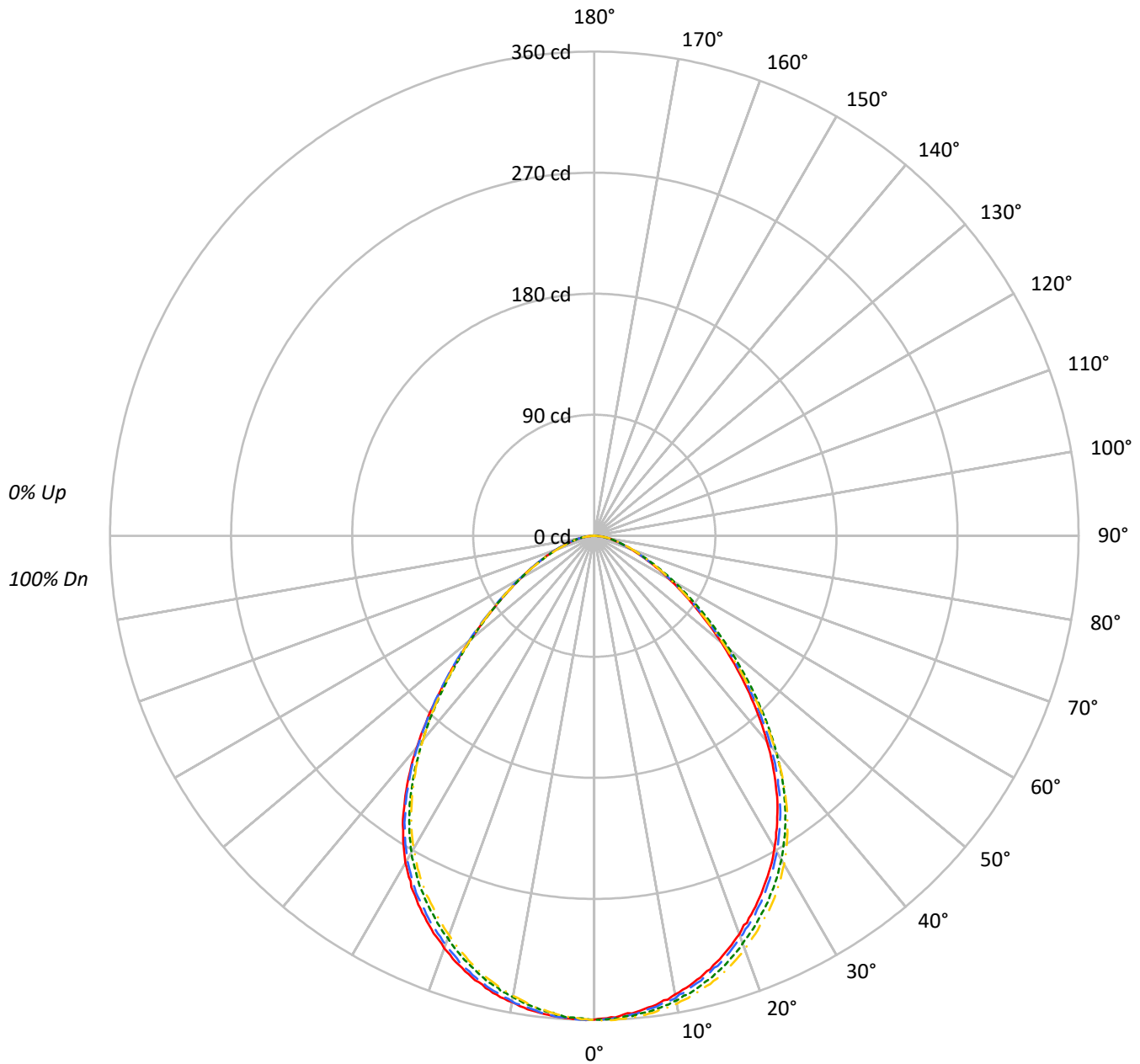
Input Watts (W): 7.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
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		
1	111	107	103	100	108	105	101	99	101	98	96	97	95	93	93	91	90	88		
2	102	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77		
3	95	86	79	73	92	84	78	73	81	76	71	79	74	70	76	72	69	67		
4	88	77	70	64	86	76	69	63	74	68	63	71	66	62	69	65	61	59		
5	81	70	62	56	80	69	62	56	67	60	55	65	59	55	63	58	54	52		
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42		
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38		
9	62	50	42	37	61	49	42	37	48	41	37	47	41	37	46	41	37	35		
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	44469	44469	44469	44469
5°	44117	44365	44465	44142
10°	43448	44025	44201	43699
15°	42685	43427	43772	42992
20°	41456	42430	42930	41851
25°	40065	41252	41702	40638
30°	38247	39703	40074	38789
35°	35728	37312	37146	35954
40°	32219	33994	33123	31993
45°	28053	29784	28053	27424
50°	23688	25227	23131	22881
55°	19501	20880	18940	18919
60°	15919	17031	15647	15573
65°	12868	13686	13014	12868
70°	10371	10877	10841	10660
75°	8691	8834	9168	9073
80°	7402	7473	8114	7971
85°	4963	5247	6523	6381

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 29784 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.9	4.9
10°-20°	95.1	13.7
20°-30°	137.9	19.8
30°-40°	150.7	21.7
40°-50°	125.2	18.0
50°-60°	81.9	11.8
60°-70°	45.1	6.5
70°-80°	20.3	2.9
80°-90°	4.9	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°	266.8	38.4
0°-40°	417.6	60.1
0°-60°	624.7	89.9
0°-90°	695.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	695.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	360	360	360	360	360	
5°	356	358	358	356	356	34
15°	334	339	342	336	334	94
25°	294	302	306	298	294	135
35°	237	247	246	238	237	147
45°	160	170	160	157	160	124
55°	90	97	88	88	90	82
65°	44	47	44	44	44	44
75°	18	18	19	19	18	20
85°	4	4	5	4	4	4
90°	0	0	0	0	0	

TEST NUMBER: P639480

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	359.8	359.8	359.8	359.8	359.8	359.8	359.8	359.8	359.8	359.8	359.8
0.5°	359.2	359.0	360.0	359.9	359.7	360.1	360.2	359.9	359.8	359.0	360.0
1°	359.0	358.5	359.9	360.1	359.7	360.4	360.5	360.0	360.2	359.1	360.0
1.5°	358.8	359.0	359.3	359.4	359.6	360.2	360.2	360.2	359.7	359.2	360.1
2°	358.2	358.2	359.5	359.2	359.4	359.5	360.3	359.9	359.6	359.2	359.7
2.5°	358.5	357.6	358.8	358.8	359.3	359.8	360.3	360.0	359.8	359.8	359.7
3°	357.7	357.4	358.5	358.6	359.5	360.0	359.7	360.1	359.2	358.8	359.3
3.5°	356.7	357.6	358.1	357.9	358.3	359.3	359.8	359.7	359.2	358.6	358.8
4°	355.9	356.8	357.8	357.8	357.9	359.2	359.6	359.5	358.8	358.5	358.9
4.5°	356.2	356.2	356.9	357.6	358.3	359.4	359.4	359.0	358.6	357.9	358.6
5°	355.6	355.4	357.2	357.6	357.6	358.1	358.9	359.3	358.4	358.1	358.1
5.5°	354.7	355.3	355.6	356.5	356.9	358.6	358.8	358.3	357.8	357.3	357.4
6°	353.8	353.8	355.2	355.8	356.6	357.4	358.3	358.2	357.6	357.1	357.4
6.5°	353.1	353.3	354.3	355.5	356.2	357.4	357.6	357.6	357.0	356.6	356.6
7°	352.6	352.5	353.8	355.0	355.7	356.7	357.4	357.2	356.5	356.2	355.7
7.5°	351.7	351.8	353.2	353.3	354.7	355.6	356.7	356.6	356.1	354.8	355.0
8°	350.6	350.5	352.0	352.6	354.3	355.4	355.4	356.4	355.6	354.5	354.2
8.5°	349.2	349.7	351.0	352.5	353.3	354.7	355.4	355.2	354.7	354.2	353.9
9°	349.2	349.0	350.7	351.4	352.8	353.8	354.7	354.9	354.2	352.8	353.0
9.5°	347.6	347.5	349.7	349.9	351.6	353.1	353.8	354.4	353.0	352.1	352.8
10°	346.2	347.0	349.0	349.7	350.8	352.2	353.3	353.3	352.2	352.3	351.6
10.5°	345.4	345.4	346.7	348.1	350.0	351.3	352.1	352.3	351.6	350.7	350.3
11°	343.8	344.1	346.5	347.0	348.3	350.7	351.4	351.9	350.6	350.2	349.6
11.5°	343.0	343.1	344.7	345.3	348.1	349.0	350.7	350.4	350.2	348.7	348.9
12°	341.9	342.3	343.4	345.2	347.0	348.5	349.2	349.6	348.7	348.0	347.3
12.5°	340.5	341.3	342.3	343.4	345.7	347.2	348.7	348.6	348.2	346.6	346.6
13°	338.9	339.3	341.0	342.4	344.5	346.3	347.3	347.6	346.7	345.8	345.4
13.5°	337.9	337.9	340.1	341.5	343.2	344.8	346.1	346.1	345.8	345.0	344.2
14°	336.2	336.6	337.9	340.2	341.7	343.5	344.9	345.4	344.0	342.7	342.6
14.5°	334.4	335.3	337.0	338.9	340.8	342.7	344.2	343.7	342.8	341.8	341.7
15°	333.6	333.6	335.2	337.3	339.4	341.3	342.6	343.0	342.1	340.8	340.1
15.5°	331.3	332.2	333.3	336.0	337.7	339.8	341.8	341.3	340.8	339.8	338.9
16°	329.8	330.0	332.8	333.2	336.5	338.6	340.3	340.2	339.1	338.4	337.0
16.5°	328.4	328.7	331.0	332.2	334.9	337.2	338.6	339.1	337.9	336.5	335.8
17°	326.3	327.1	328.8	330.3	333.4	335.3	337.0	337.2	336.1	334.4	333.9
17.5°	324.5	325.2	327.3	328.3	331.6	334.2	335.7	335.3	334.6	333.3	332.9
18°	322.8	323.8	325.5	327.1	329.8	332.1	333.9	334.3	333.2	331.4	330.4
18.5°	321.1	321.1	323.5	324.5	328.3	330.6	332.2	332.4	331.6	330.2	328.7
19°	318.9	319.7	321.7	323.3	326.4	329.0	330.5	330.5	329.5	328.1	327.1
19.5°	316.9	317.6	319.7	321.4	324.7	326.7	328.9	329.1	327.9	326.7	325.4
20°	315.2	315.8	317.7	319.4	322.6	325.2	326.9	327.0	326.4	325.0	323.5
20.5°	312.9	314.1	315.8	317.1	320.4	323.3	325.0	325.0	323.8	322.8	321.6
21°	310.0	311.1	313.2	315.3	318.9	321.3	323.2	323.3	322.1	320.3	319.3

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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°	304.8	305.6	307.6	309.6	313.1	315.5	317.5	318.0	316.5	315.3	313.8
23°	302.5	303.3	306.0	307.1	311.0	313.4	315.0	315.7	314.5	312.8	312.0
23.5°	300.5	301.3	303.3	305.6	308.9	311.7	313.7	313.4	312.4	311.3	309.7
24°	298.0	298.8	301.0	302.6	306.8	309.9	311.2	312.3	310.1	308.8	307.7
24.5°	295.9	296.6	299.1	301.0	304.9	307.5	308.9	309.4	308.2	306.9	305.0
25°	293.8	294.6	296.6	299.3	302.5	305.6	307.2	307.1	305.8	305.0	303.8
25.5°	291.1	292.1	294.5	296.1	300.7	303.3	305.0	304.8	303.8	302.2	300.9
26°	288.7	289.5	292.0	294.5	297.8	300.8	302.6	302.9	301.2	299.7	298.9
26.5°	286.4	287.7	289.3	292.1	295.7	299.4	300.4	300.2	298.9	297.8	296.8
27°	284.0	284.9	287.1	289.4	293.7	296.4	297.6	297.6	296.7	294.8	294.0
27.5°	281.4	282.5	284.6	287.1	291.0	293.9	295.3	295.3	294.5	292.8	291.6
28°	279.0	279.8	282.4	284.9	288.7	291.3	292.7	293.0	290.9	290.1	288.9
28.5°	276.5	277.2	279.6	281.8	286.2	288.8	290.4	290.1	288.9	287.5	286.1
29°	273.8	274.3	276.7	279.0	283.2	286.3	287.5	287.0	286.0	285.0	283.4
29.5°	270.8	271.9	274.1	276.5	280.7	283.5	284.6	284.5	283.3	281.4	280.8
30°	268.0	268.3	271.5	273.8	278.2	280.7	282.4	281.7	280.8	279.3	278.1
30.5°	264.9	266.1	268.6	271.1	275.4	278.1	278.8	278.9	277.5	276.2	274.9
31°	262.2	263.6	265.6	268.0	272.6	275.0	276.2	276.1	274.5	273.2	271.7
31.5°	258.7	260.6	262.4	265.0	269.5	272.2	273.1	272.6	271.2	270.1	269.0
32°	256.3	257.2	259.6	262.0	266.3	268.7	270.0	269.1	268.3	267.1	265.5
32.5°	252.9	254.6	256.6	259.1	263.7	266.2	266.9	265.7	264.6	263.4	262.2
33°	249.5	251.0	253.4	255.7	260.1	262.5	263.7	262.8	260.8	260.1	258.6
33.5°	246.7	247.8	250.5	253.1	257.4	259.5	260.1	259.0	257.9	256.7	255.8
34°	243.5	244.5	247.2	249.7	253.9	256.5	256.8	255.3	254.4	252.8	251.5
34.5°	240.2	241.2	243.8	246.1	250.8	253.1	253.3	251.8	250.5	249.8	247.5
35°	236.8	237.6	240.4	242.6	247.3	249.8	249.9	248.0	246.2	245.8	244.9
35.5°	233.1	234.4	237.6	239.6	244.1	246.0	246.2	244.5	242.7	242.0	240.8
36°	229.4	230.9	233.5	236.4	240.6	242.6	242.1	240.6	239.0	238.2	237.2
36.5°	226.3	227.1	229.6	232.6	237.1	238.8	238.5	236.7	234.7	234.0	232.8
37°	222.4	223.7	226.8	228.9	233.5	235.2	234.7	232.5	231.2	230.6	229.1
37.5°	218.8	220.4	222.9	224.8	229.9	231.6	230.8	228.6	226.7	226.3	225.3
38°	215.2	216.6	219.2	221.0	226.4	227.4	226.8	224.4	222.3	222.2	221.2
38.5°	211.2	212.9	215.7	217.7	222.2	223.9	222.8	220.1	218.6	218.1	217.3
39°	207.6	208.9	211.6	214.4	218.6	219.4	218.6	215.7	214.2	213.6	212.8
39.5°	203.7	205.6	207.7	210.4	214.4	215.8	214.5	211.5	209.5	209.6	208.5
40°	199.7	201.7	204.2	206.4	210.7	211.9	210.1	207.1	205.3	205.1	204.2
40.5°	196.0	197.4	200.3	202.4	206.8	207.6	206.3	202.7	200.6	200.9	200.1
41°	192.0	193.9	196.5	198.7	202.8	203.6	201.8	198.2	196.3	196.5	195.8
41.5°	188.1	189.5	192.5	194.6	198.7	199.6	197.7	193.6	191.9	192.1	191.2
42°	184.3	185.9	188.6	190.3	194.7	195.3	193.0	189.0	186.9	187.2	186.7
42.5°	180.2	181.9	184.4	186.9	190.7	191.2	188.8	184.9	182.9	183.3	182.7
43°	176.4	178.0	180.9	182.8	186.7	186.9	184.5	180.2	178.6	178.8	178.5
43.5°	172.4	174.1	176.5	178.7	182.5	182.9	180.2	175.7	173.7	174.4	173.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	160.5	162.4	164.4	166.9	170.4	170.1	167.0	162.3	160.5	161.3	161.3
45.5°	156.7	158.6	160.7	162.7	166.2	165.8	162.8	158.0	156.4	157.1	157.1
46°	152.7	154.4	157.0	158.9	162.2	161.9	158.1	153.8	151.9	153.1	153.1
46.5°	149.1	150.8	153.1	155.0	158.2	157.6	154.3	149.5	147.7	149.0	148.6
47°	145.1	147.1	149.2	151.1	154.0	153.7	149.8	145.1	143.8	144.7	144.9
47.5°	141.3	143.0	145.2	147.1	150.2	149.5	145.7	141.0	139.6	140.6	140.8
48°	137.7	139.4	141.5	143.2	146.3	145.4	141.8	137.1	135.5	136.5	136.7
48.5°	133.7	135.4	137.9	139.4	142.5	142.0	137.7	133.1	131.5	132.7	133.1
49°	130.2	131.9	133.9	136.0	138.9	137.5	133.7	129.3	127.7	128.8	129.5
49.5°	126.5	128.1	130.2	131.9	134.8	133.9	129.8	125.2	123.8	125.0	125.6
50°	123.2	124.7	126.5	128.2	131.2	130.1	126.0	121.8	120.3	121.3	121.8
50.5°	119.5	120.9	123.2	124.5	127.3	126.4	122.2	117.9	116.5	117.8	118.5
51°	116.1	117.5	119.4	120.9	123.9	122.8	118.7	114.3	113.0	114.2	114.7
51.5°	112.7	114.3	115.9	117.5	120.3	119.2	115.1	110.8	109.5	110.6	111.3
52°	109.4	110.7	112.5	114.0	116.8	115.6	111.5	107.6	106.2	107.3	108.0
52.5°	106.0	107.3	109.2	110.6	113.2	112.0	108.0	104.1	103.1	104.0	104.8
53°	102.6	104.1	106.0	107.1	109.9	108.7	104.7	101.0	99.8	100.6	101.4
53.5°	99.6	101.1	102.7	103.9	106.5	105.4	101.5	97.8	96.6	97.5	98.3
54°	96.4	97.8	99.2	100.5	103.3	101.9	98.1	94.8	93.7	94.5	95.2
54.5°	93.5	94.7	96.2	97.4	100.1	98.8	95.2	91.7	90.7	91.4	92.3
55°	90.5	91.8	93.3	94.7	96.9	96.0	92.1	89.0	87.9	88.5	89.4
55.5°	87.5	89.0	90.1	91.4	93.8	92.6	89.2	86.1	85.0	85.8	86.5
56°	84.9	86.0	87.3	88.5	90.8	89.7	86.3	83.4	82.4	82.9	83.9
56.5°	82.0	83.3	84.5	85.5	87.8	86.7	83.6	80.7	79.7	80.3	81.0
57°	79.3	80.5	81.6	82.7	84.9	83.9	80.8	78.2	77.0	77.7	78.4
57.5°	76.9	77.7	79.0	80.0	82.1	81.0	78.2	75.7	74.7	75.3	75.9
58°	74.1	75.3	76.4	77.3	79.3	78.4	75.7	73.1	72.1	72.7	73.4
58.5°	71.8	72.6	73.6	74.6	76.5	75.8	73.2	71.0	70.0	70.3	71.2
59°	69.3	70.1	71.0	71.9	74.0	73.1	70.7	68.5	67.6	68.0	68.7
59.5°	66.6	67.6	68.7	69.5	71.4	70.6	68.3	66.2	65.2	65.8	66.4
60°	64.4	65.2	66.3	67.0	68.9	68.2	65.9	64.0	63.3	63.5	64.1
60.5°	62.2	63.0	63.9	64.6	66.4	65.7	63.7	62.0	61.1	61.3	62.0
61°	59.8	60.6	61.4	62.4	64.1	63.4	61.6	59.8	59.1	59.2	60.0
61.5°	57.7	58.5	59.2	59.9	61.8	61.1	59.4	57.9	57.2	57.3	58.0
62°	55.7	56.2	57.1	57.8	59.4	58.9	57.3	55.9	55.2	55.3	56.1
62.5°	53.6	54.1	54.9	55.6	57.3	56.8	55.3	54.0	53.3	53.3	54.1
63°	51.5	52.1	52.8	53.4	55.1	54.6	53.3	52.0	51.3	51.4	52.2
63.5°	49.6	50.1	50.7	51.4	53.0	52.5	51.3	50.1	49.6	49.7	50.2
64°	47.7	48.1	48.7	49.4	50.9	50.4	49.4	48.4	47.9	47.9	48.4
64.5°	45.7	46.2	46.9	47.4	48.9	48.5	47.5	46.7	46.2	46.2	46.7
65°	44.0	44.4	45.0	45.4	46.8	46.5	45.7	45.0	44.5	44.5	45.0
65.5°	42.2	42.6	43.1	43.6	45.0	44.8	44.1	43.3	42.9	42.9	43.3
66°	40.5	40.8	41.4	41.8	43.1	42.9	42.4	41.7	41.3	41.3	41.7

TEST NUMBER: P639480

CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	35.7	35.9	36.4	36.7	37.8	37.7	37.5	37.1	36.8	36.9	37.1
68°	34.2	34.5	34.7	35.2	36.1	36.1	36.0	35.6	35.3	35.4	35.6
68.5°	32.8	33.0	33.3	33.5	34.6	34.6	34.5	34.2	34.0	34.0	34.2
69°	31.4	31.6	31.8	32.1	33.0	33.0	33.1	32.8	32.7	32.7	32.8
69.5°	30.1	30.2	30.4	30.6	31.6	31.6	31.7	31.5	31.3	31.3	31.5
70°	28.7	28.9	29.0	29.2	30.1	30.2	30.3	30.2	30.0	30.1	30.2
70.5°	27.5	27.6	27.8	28.0	28.7	28.9	29.1	28.9	28.8	28.9	29.0
71°	26.3	26.4	26.5	26.6	27.4	27.6	27.8	27.7	27.5	27.7	27.8
71.5°	25.1	25.2	25.3	25.3	26.1	26.3	26.5	26.5	26.4	26.5	26.6
72°	24.4	24.2	24.2	24.1	24.9	25.1	25.3	25.3	25.3	25.4	25.5
72.5°	23.3	23.2	23.2	23.0	23.7	23.9	24.2	24.3	24.2	24.3	24.4
73°	22.2	22.1	22.1	22.0	22.5	22.8	23.2	23.2	23.2	23.2	23.3
73.5°	21.1	21.0	21.0	21.0	21.5	21.7	22.0	22.1	22.1	22.2	22.2
74°	20.0	20.0	20.0	19.9	20.5	20.7	21.0	21.1	21.1	21.2	21.2
74.5°	19.1	19.1	19.0	18.9	19.5	19.7	20.0	20.1	20.1	20.2	20.3
75°	18.2	18.1	18.1	18.0	18.5	18.8	19.1	19.2	19.2	19.3	19.3
75.5°	17.4	17.3	17.2	17.2	17.6	17.9	18.1	18.3	18.3	18.4	18.4
76°	16.5	16.4	16.4	16.4	16.9	17.0	17.3	17.4	17.4	17.5	17.6
76.5°	15.7	15.7	15.6	15.6	16.1	16.2	16.4	16.5	16.6	16.7	16.8
77°	15.0	14.9	14.8	14.8	15.2	15.5	15.7	15.7	15.8	16.0	16.0
77.5°	14.3	14.1	14.0	14.0	14.5	14.7	15.0	15.0	15.1	15.2	15.3
78°	13.4	13.3	13.3	13.3	13.7	13.9	14.2	14.3	14.3	14.5	14.6
78.5°	12.6	12.6	12.5	12.4	12.9	13.1	13.4	13.5	13.6	13.8	13.8
79°	11.9	11.8	11.6	11.6	12.1	12.4	12.6	12.7	12.8	13.0	13.1
79.5°	11.1	11.0	10.9	10.9	11.4	11.6	11.9	12.0	12.1	12.3	12.3
80°	10.4	10.2	10.2	10.1	10.5	10.8	11.1	11.3	11.4	11.6	11.6
80.5°	9.6	9.5	9.5	9.4	9.8	10.0	10.3	10.5	10.7	10.8	10.9
81°	9.0	8.8	8.7	8.6	9.1	9.3	9.6	9.8	9.9	10.1	10.2
81.5°	8.2	8.0	8.0	7.8	8.3	8.6	8.9	9.1	9.2	9.4	9.5
82°	7.5	7.4	7.3	7.2	7.6	7.8	8.2	8.3	8.5	8.7	8.8
82.5°	6.8	6.7	6.6	6.5	7.0	7.2	7.5	7.6	7.8	8.0	8.0
83°	6.1	6.0	5.9	5.9	6.3	6.5	6.8	7.0	7.1	7.3	7.4
83.5°	5.4	5.4	5.2	5.2	5.6	5.9	6.2	6.4	6.5	6.7	6.8
84°	4.9	4.7	4.6	4.6	5.0	5.2	5.5	5.7	5.9	6.1	6.1
84.5°	4.2	4.1	4.0	3.9	4.3	4.6	4.9	5.1	5.2	5.4	5.5
85°	3.5	3.5	3.3	3.3	3.7	4.0	4.2	4.4	4.6	4.8	4.9
85.5°	3.0	2.9	2.8	2.8	3.1	3.3	3.6	3.8	4.0	4.1	4.2
86°	2.5	2.3	2.3	2.3	2.5	2.8	3.0	3.2	3.3	3.5	3.6
86.5°	2.0	1.8	1.8	1.7	2.0	2.2	2.5	2.7	2.8	2.9	3.0
87°	1.5	1.4	1.3	1.2	1.4	1.6	1.9	2.1	2.3	2.4	2.5
87.5°	1.0	0.9	0.8	0.7	1.0	1.1	1.3	1.6	1.7	1.8	1.9
88°	0.5	0.4	0.4	0.4	0.6	0.7	1.0	1.1	1.2	1.3	1.4
88.5°	0.2	0.3	0.2	0.1	0.2	0.4	0.6	0.7	0.8	0.9	1.0



TEST NUMBER: P639480
CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1

TEST NUMBER: P639480

CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	359.8	359.8	359.8	359.8	359.8	359.8
0.5°	359.4	359.8	360.0	359.9	359.5	359.2
1°	359.7	359.3	359.2	359.4	359.7	359.0
1.5°	360.5	358.8	359.5	359.6	359.5	358.8
2°	359.0	358.9	359.1	358.8	358.7	358.2
2.5°	359.9	358.6	358.6	358.6	358.8	358.5
3°	359.2	358.6	358.3	358.2	358.3	357.7
3.5°	358.3	358.4	358.0	358.1	357.5	356.7
4°	358.3	357.4	357.6	357.4	356.9	355.9
4.5°	358.1	357.4	357.0	356.9	356.2	356.2
5°	357.4	355.8	356.2	356.2	355.8	355.6
5.5°	356.7	355.9	355.3	355.5	355.0	354.7
6°	356.5	355.4	355.1	354.5	354.4	353.8
6.5°	355.9	354.6	354.5	354.0	354.1	353.1
7°	355.3	353.6	353.1	353.6	352.6	352.6
7.5°	354.3	353.0	352.7	352.3	352.1	351.7
8°	353.6	352.1	351.6	351.6	351.1	350.6
8.5°	353.2	351.6	350.8	350.1	349.8	349.2
9°	351.4	350.2	349.9	349.2	349.4	349.2
9.5°	350.4	349.5	348.7	348.2	347.9	347.6
10°	350.3	348.2	348.0	347.5	346.6	346.2
10.5°	349.7	347.5	346.7	346.1	345.1	345.4
11°	349.1	346.2	345.6	345.1	344.5	343.8
11.5°	347.0	346.3	344.5	344.1	343.3	343.0
12°	346.5	343.7	343.3	342.7	341.8	341.9
12.5°	344.4	343.1	341.8	341.2	340.6	340.5
13°	344.1	341.7	340.1	339.8	339.8	338.9
13.5°	343.1	341.0	339.2	338.7	337.8	337.9
14°	341.4	339.0	338.2	337.3	336.5	336.2
14.5°	339.8	337.7	336.5	336.0	335.3	334.4
15°	339.1	336.0	334.5	334.2	333.4	333.6
15.5°	337.0	334.3	333.4	332.1	331.5	331.3
16°	335.6	332.9	331.8	331.0	330.4	329.8
16.5°	334.0	331.2	330.0	329.3	328.6	328.4
17°	332.6	329.9	328.6	327.3	326.6	326.3
17.5°	330.8	328.1	327.0	325.6	325.0	324.5
18°	329.1	326.1	324.8	323.9	323.3	322.8
18.5°	327.7	324.5	323.2	321.9	321.0	321.1
19°	325.9	322.4	321.1	320.0	318.9	318.9
19.5°	323.3	320.6	319.2	318.0	317.3	316.9
20°	322.0	318.2	317.6	315.8	315.3	315.2
20.5°	319.7	316.8	315.2	314.0	313.4	312.9
21°	318.0	315.1	313.3	312.0	311.2	310.0



TEST NUMBER: P639480

CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	312.7	308.5	306.9	306.0	304.8	304.8
23°	309.8	306.2	304.7	303.4	302.9	302.5
23.5°	307.7	304.5	302.6	300.9	300.5	300.5
24°	305.2	302.3	300.8	298.9	298.3	298.0
24.5°	303.8	300.0	298.5	296.6	295.9	295.9
25°	300.8	298.0	296.0	294.9	294.2	293.8
25.5°	298.4	295.3	294.0	291.9	291.4	291.1
26°	297.0	293.0	291.6	289.9	288.7	288.7
26.5°	293.9	290.9	289.2	287.2	286.7	286.4
27°	291.7	288.3	286.5	285.0	284.0	284.0
27.5°	289.5	285.4	283.6	282.2	281.5	281.4
28°	286.6	282.8	280.8	279.9	279.1	279.0
28.5°	284.2	280.2	278.4	276.9	276.2	276.5
29°	280.8	277.3	275.3	274.3	273.7	273.8
29.5°	278.4	275.0	272.9	271.2	270.7	270.8
30°	275.7	271.8	270.2	268.5	268.4	268.0
30.5°	272.7	269.0	267.0	265.6	265.2	264.9
31°	269.8	265.4	263.9	262.5	261.9	262.2
31.5°	267.0	262.6	261.1	259.6	258.9	258.7
32°	263.0	259.3	257.7	256.4	255.8	256.3
32.5°	259.6	255.8	254.4	253.1	252.9	252.9
33°	256.5	252.6	251.2	249.7	249.5	249.5
33.5°	252.7	249.1	247.6	246.7	246.4	246.7
34°	250.0	245.6	244.0	243.1	243.1	243.5
34.5°	245.9	242.2	240.4	239.7	239.3	240.2
35°	242.3	238.3	236.8	236.1	236.0	236.8
35.5°	238.7	234.6	233.1	232.2	232.6	233.1
36°	234.7	230.6	229.5	228.9	229.1	229.4
36.5°	231.2	227.0	225.6	225.3	225.3	226.3
37°	226.8	222.9	221.8	221.2	221.5	222.4
37.5°	223.2	219.1	217.9	217.8	218.0	218.8
38°	219.1	214.9	214.0	213.8	214.2	215.2
38.5°	215.0	210.7	210.2	209.8	210.3	211.2
39°	210.7	206.8	205.8	205.9	206.9	207.6
39.5°	206.7	202.6	202.2	202.3	202.7	203.7
40°	202.7	198.3	197.7	198.0	198.7	199.7
40.5°	198.1	194.3	193.9	194.2	195.3	196.0
41°	194.0	189.9	189.7	190.0	190.9	192.0
41.5°	189.8	185.9	185.6	186.1	186.9	188.1
42°	185.2	182.1	181.6	182.3	183.0	184.3
42.5°	180.9	177.5	177.5	178.3	179.2	180.2
43°	176.6	173.3	173.4	173.9	175.0	176.4
43.5°	172.3	169.2	169.3	169.9	171.2	172.4



TEST NUMBER: P639480

CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	159.7	156.9	157.3	157.8	159.2	160.5
45.5°	155.4	152.8	153.2	154.2	155.4	156.7
46°	151.6	149.0	149.5	150.0	151.4	152.7
46.5°	147.7	144.9	145.7	146.3	147.5	149.1
47°	143.6	141.1	141.6	142.6	143.7	145.1
47.5°	139.6	137.2	137.7	138.6	140.1	141.3
48°	135.9	133.6	134.3	134.7	136.2	137.7
48.5°	132.2	129.8	130.4	131.2	132.4	133.7
49°	128.5	126.2	126.9	127.6	128.8	130.2
49.5°	124.8	122.6	123.1	123.9	125.2	126.5
50°	121.0	119.0	119.6	120.5	121.7	123.2
50.5°	117.5	115.6	116.1	116.8	118.0	119.5
51°	114.2	112.2	112.8	113.6	114.7	116.1
51.5°	110.8	109.1	109.6	110.2	111.4	112.7
52°	107.6	105.7	106.2	106.9	108.0	109.4
52.5°	104.1	102.4	103.1	103.7	104.6	106.0
53°	101.0	99.4	100.0	100.5	101.5	102.6
53.5°	98.1	96.4	96.8	97.5	98.3	99.6
54°	95.1	93.2	93.8	94.3	95.4	96.4
54.5°	92.2	90.5	90.9	91.4	92.3	93.5
55°	89.1	87.8	88.0	88.5	89.3	90.5
55.5°	86.5	85.0	85.3	85.6	86.5	87.5
56°	83.9	82.3	82.5	82.9	83.8	84.9
56.5°	81.0	79.6	79.9	80.2	80.8	82.0
57°	78.5	77.3	77.3	77.6	78.3	79.3
57.5°	76.2	74.6	74.8	75.0	75.6	76.9
58°	73.6	72.3	72.3	72.6	73.2	74.1
58.5°	71.3	69.9	69.9	70.1	70.6	71.8
59°	68.9	67.6	67.7	67.6	68.3	69.3
59.5°	66.6	65.4	65.3	65.4	65.9	66.6
60°	64.5	63.0	63.2	63.2	63.7	64.4
60.5°	62.3	61.0	60.8	60.9	61.5	62.2
61°	60.2	58.9	58.9	58.7	59.2	59.8
61.5°	58.2	56.9	56.8	56.7	57.0	57.7
62°	56.3	54.9	54.6	54.7	55.0	55.7
62.5°	54.3	52.8	52.7	52.7	53.1	53.6
63°	52.3	51.0	50.8	50.7	51.0	51.5
63.5°	50.3	49.2	49.0	48.9	49.1	49.6
64°	48.6	47.4	47.2	47.1	47.2	47.7
64.5°	46.8	45.7	45.5	45.3	45.5	45.7
65°	45.0	44.0	43.7	43.6	43.6	44.0
65.5°	43.4	42.4	42.0	41.9	41.9	42.2
66°	41.9	40.7	40.5	40.2	40.2	40.5



TEST NUMBER: P639480

CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	37.2	36.1	35.9	35.7	35.5	35.7
68°	35.7	34.8	34.5	34.2	34.0	34.2
68.5°	34.2	33.3	33.0	32.8	32.6	32.8
69°	33.0	32.1	31.7	31.4	31.3	31.4
69.5°	31.6	30.8	30.4	30.1	29.9	30.1
70°	30.3	29.5	29.2	28.9	28.7	28.7
70.5°	29.1	28.2	28.0	27.6	27.5	27.5
71°	27.9	27.1	26.8	26.5	26.3	26.3
71.5°	26.6	25.9	25.6	25.3	25.2	25.1
72°	25.6	24.8	24.6	24.1	24.4	24.4
72.5°	24.4	23.9	23.5	23.2	23.2	23.3
73°	23.4	22.9	22.5	22.2	22.2	22.2
73.5°	22.3	21.9	21.5	21.2	21.1	21.1
74°	21.3	20.8	20.5	20.2	20.0	20.0
74.5°	20.4	19.8	19.6	19.3	19.1	19.1
75°	19.5	19.0	18.7	18.4	18.2	18.2
75.5°	18.6	18.1	17.9	17.6	17.4	17.4
76°	17.7	17.2	17.0	16.7	16.6	16.5
76.5°	16.9	16.4	16.2	16.0	15.9	15.7
77°	16.1	15.7	15.5	15.2	15.1	15.0
77.5°	15.4	15.0	14.8	14.5	14.4	14.3
78°	14.6	14.2	14.0	13.8	13.6	13.4
78.5°	13.9	13.5	13.3	13.0	12.8	12.6
79°	13.1	12.7	12.5	12.2	12.0	11.9
79.5°	12.4	11.9	11.7	11.5	11.3	11.1
80°	11.6	11.2	11.0	10.7	10.5	10.4
80.5°	10.9	10.5	10.3	10.0	9.8	9.6
81°	10.2	9.8	9.5	9.3	9.0	9.0
81.5°	9.5	9.1	8.9	8.6	8.3	8.2
82°	8.8	8.4	8.1	7.8	7.6	7.5
82.5°	8.1	7.7	7.5	7.2	7.0	6.8
83°	7.4	7.1	6.8	6.6	6.3	6.1
83.5°	6.8	6.4	6.1	5.9	5.6	5.4
84°	6.1	5.7	5.5	5.2	5.0	4.9
84.5°	5.5	5.1	4.9	4.7	4.4	4.2
85°	4.9	4.5	4.2	4.0	3.7	3.5
85.5°	4.2	3.9	3.6	3.4	3.1	3.0
86°	3.6	3.2	3.0	2.8	2.6	2.5
86.5°	3.0	2.8	2.5	2.3	2.1	2.0
87°	2.5	2.3	2.0	1.8	1.6	1.5
87.5°	2.0	1.8	1.6	1.3	1.1	1.0
88°	1.4	1.3	1.1	0.8	0.6	0.5
88.5°	1.0	0.8	0.6	0.4	0.2	0.2



TEST NUMBER: P639480
CATALOG NUMBER: RL4LS9FSD2W1EWHDM -600LM -3000K

CANDELA DISTRIBUTION (continued):

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



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







21.5°	309.5	309.6	312.0	314.0	317.0	319.7	321.0	321.2	320.3	318.7	317.7
22°	306.5	307.5	309.8	311.7	315.2	317.3	319.4	319.2	318.8	317.5	315.6



44°	168.4	170.3	172.8	174.9	178.2	178.3	175.8	171.1	169.4	170.0	170.1
44.5°	164.7	166.1	168.9	171.0	174.2	174.4	171.3	166.7	164.7	165.9	165.3



66.5°	38.8	39.2	39.7	40.1	41.3	41.1	40.7	40.2	39.8	39.7	40.0
67°	37.3	37.6	37.9	38.3	39.5	39.4	39.0	38.5	38.3	38.4	38.5



89°	0.2	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.5	0.6
89.5°	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2





21.5°	316.0	312.7	311.4	309.8	309.3	309.5
22°	313.4	310.8	309.1	307.4	307.0	306.5



44°	168.2	165.2	165.1	166.0	167.2	168.4
44.5°	164.0	161.0	161.4	162.0	163.1	164.7



66.5°	40.2	39.2	38.8	38.6	38.6	38.8
67°	38.7	37.7	37.3	37.1	37.0	37.3



89°	0.6	0.4	0.2	0.1	0.1	0.2
89.5°	0.3	0.2	0.1	0.1	0.1	0.1



(END OF REPORT)