

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P522089

Luminaire Tested: **RLLV4069SE010WHDM-3000K-UNIT**

Issue Date: 5/10/2021

Test Information

Test Method: LM-79-08
Report Number: P522089
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A1809075A001)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 5/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: RLLV4069SE010WHDM-3000K-UNIT
Description: Surface Mount Downlight Fixture, Single Unit
Light Source: (48) 3000K CCT, 93 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

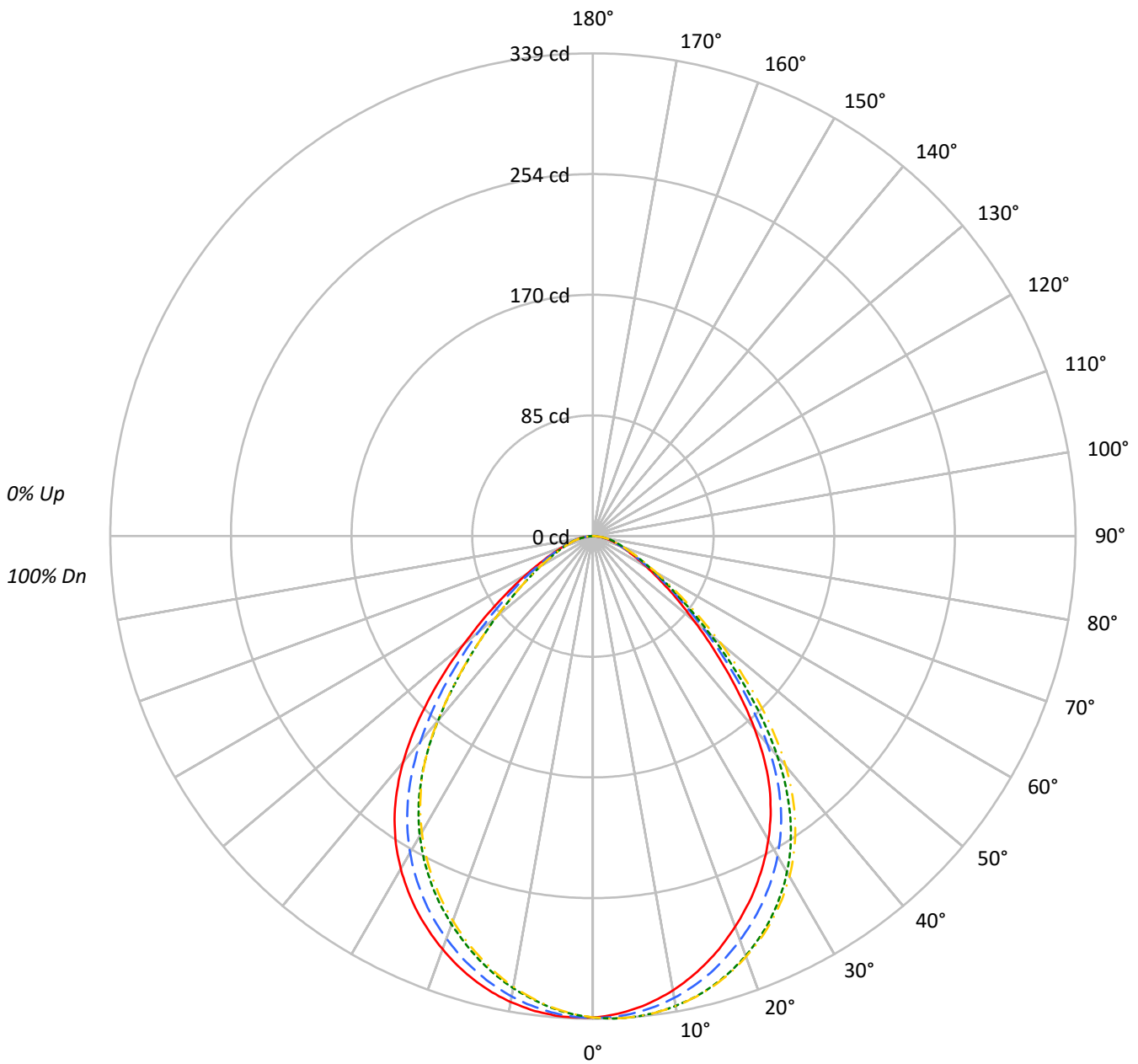
Lumens per Lamp: 644.87 (48 lamps)
Luminaire Lumens: 620.0 lumens
Efficiency: 2.0%
Efficacy: 92.5 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 6.7
Input Voltage (V): 120
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: 25 FT



TEST NUMBER: P522089
CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

Luminous Intensity Polar Plot



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



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																					
0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	1	2	2	2	1	2	2	1	2	2	1	2	1	1	2	1	1	1
4	2	2	1	1	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
5	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	41799	41799	41799	41799
5°	41363	42033	41859	41251
10°	40662	42042	41703	40461
15°	39640	41802	41277	39435
20°	38405	41246	40602	38168
25°	36983	40352	39738	36670
30°	35179	38889	38518	34693
35°	32635	36482	36648	31760
40°	28476	32494	33478	27298
45°	23054	26865	28595	21936
50°	17920	20804	22862	17036
55°	13855	15730	17540	13209
60°	10876	12211	13348	10505
65°	8773	9855	10323	8686
70°	7444	8347	8167	7589
75°	6685	7784	7258	7163
80°	5836	7473	6904	6192
85°	3403	6381	5530	3262



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	31.8	5.1	0.1
10°-20°	89.2	14.4	0.3
20°-30°	129.5	20.9	0.4
30°-40°	141.5	22.8	0.5
40°-50°	111.3	18.0	0.4
50°-60°	64.0	10.3	0.2
60°-70°	32.6	5.3	0.1
70°-80°	16.0	2.6	0.1
80°-90°	4.0	0.6	0.0
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	250.6	40.4	0.8
0°-40°	392.1	63.2	1.3
0°-60°	567.5	91.5	1.8
0°-90°	620.0	100.0	2.0
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	620.0	100.0	2.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	338	338	338	338	338	
5°	333	339	337	332	333	32
15°	310	327	323	308	310	87
25°	271	296	291	269	271	125
35°	216	242	243	210	216	134
45°	132	154	164	126	132	102
55°	64	73	81	61	64	59
65°	30	34	35	30	30	30
75°	14	16	15	15	14	15
85°	2	4	4	2	2	3
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°	338.2	338.2	338.2	338.2	338.2	338.2	338.2	338.2	338.2	338.2	338.2
0.5°	337.9	338.0	338.4	339.4	338.3	338.3	338.3	338.2	338.2	338.1	338.3
1°	337.6	337.9	338.4	339.4	338.6	338.6	338.5	338.4	338.3	338.1	338.2
1.5°	337.2	337.7	338.3	339.4	338.8	338.8	338.8	338.5	338.3	338.1	338.1
2°	336.8	337.4	338.2	339.4	339.0	339.0	339.0	338.6	338.4	338.1	337.9
2.5°	336.3	337.1	338.1	339.3	339.1	339.1	339.1	338.7	338.3	338.0	337.6
3°	335.9	336.7	337.8	339.2	339.1	339.2	339.1	338.7	338.2	337.7	337.3
3.5°	335.3	336.3	337.5	339.0	339.1	339.2	339.1	338.7	338.1	337.5	337.0
4°	334.7	335.9	337.1	338.8	339.1	339.2	339.1	338.6	338.0	337.2	336.6
4.5°	334.1	335.4	336.7	338.6	339.0	339.2	339.0	338.5	337.8	336.8	336.1
5°	333.4	334.8	336.2	338.2	338.8	339.1	338.8	338.3	337.4	336.4	335.7
5.5°	332.7	334.2	335.8	338.0	338.7	338.9	338.7	338.1	337.1	336.0	335.1
6°	332.0	333.6	335.2	337.5	338.4	338.7	338.5	337.8	336.8	335.5	334.5
6.5°	331.1	332.9	334.6	337.1	338.1	338.5	338.2	337.4	336.3	335.0	333.9
7°	330.2	332.2	334.0	336.5	337.9	338.1	337.9	337.0	336.0	334.3	333.3
7.5°	329.2	331.3	333.3	336.1	337.5	337.9	337.5	336.5	335.4	333.8	332.5
8°	328.3	330.5	332.6	335.4	337.0	337.5	337.1	336.1	334.8	333.1	331.8
8.5°	327.2	329.6	331.9	334.8	336.5	337.0	336.7	335.6	334.2	332.4	330.9
9°	326.2	328.6	331.0	334.2	336.1	336.5	336.2	335.0	333.6	331.7	330.2
9.5°	325.1	327.7	330.2	333.4	335.6	336.0	335.7	334.3	332.9	330.8	329.2
10°	324.0	326.6	329.3	332.6	335.0	335.4	335.1	333.7	332.3	330.0	328.3
10.5°	322.7	325.5	328.4	331.9	334.3	334.8	334.5	333.0	331.5	329.1	327.3
11°	321.5	324.4	327.3	331.0	333.7	334.2	333.9	332.3	330.6	328.2	326.3
11.5°	320.2	323.2	326.3	330.1	333.0	333.5	333.2	331.5	329.9	327.1	325.1
12°	318.8	322.0	325.2	329.1	332.3	332.7	332.4	330.7	328.9	326.2	324.1
12.5°	317.5	320.7	324.1	328.1	331.5	332.0	331.7	329.9	328.0	325.1	322.9
13°	316.0	319.5	323.0	327.0	330.6	331.2	330.9	328.9	327.0	324.1	321.7
13.5°	314.6	318.2	321.7	326.0	329.8	330.3	330.1	328.0	326.0	322.9	320.6
14°	313.0	316.8	320.5	324.8	328.8	329.4	329.1	327.0	324.9	321.7	319.2
14.5°	311.4	315.3	319.1	323.7	327.8	328.4	328.2	326.0	323.8	320.5	317.9
15°	309.8	313.9	317.8	322.5	326.7	327.4	327.1	324.9	322.6	319.2	316.6
15.5°	308.2	312.4	316.4	321.1	325.6	326.4	326.1	323.8	321.4	317.9	315.1
16°	306.6	310.8	314.9	319.8	324.5	325.3	324.9	322.6	320.2	316.5	313.7
16.5°	304.9	309.1	313.4	318.5	323.2	324.2	323.8	321.4	318.8	315.1	312.3
17°	303.2	307.5	312.0	317.1	322.1	322.9	322.6	320.2	317.5	313.6	310.8
17.5°	301.3	305.9	310.4	315.6	320.7	321.6	321.3	318.8	316.2	312.2	309.2
18°	299.5	304.2	308.8	314.2	319.4	320.3	320.1	317.5	314.8	310.6	307.6
18.5°	297.6	302.5	307.1	312.7	318.1	318.9	318.7	316.1	313.2	309.0	305.9
19°	295.8	300.7	305.4	311.1	316.7	317.6	317.3	314.7	311.8	307.4	304.2
19.5°	293.9	299.0	303.8	309.4	315.1	316.2	315.8	313.2	310.2	305.8	302.5
20°	292.0	297.1	302.0	307.8	313.6	314.7	314.4	311.7	308.7	304.2	300.7
20.5°	290.1	295.3	300.3	306.1	312.1	313.1	312.9	310.2	307.1	302.5	299.0
21°	288.1	293.5	298.5	304.5	310.5	311.5	311.4	308.6	305.5	300.7	297.2
21.5°	286.0	291.6	296.7	302.7	308.9	309.9	309.8	307.1	303.8	299.0	295.4
22°	284.0	289.6	294.8	300.9	307.1	308.2	308.2	305.4	302.2	297.3	293.5



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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°	281.9	287.7	292.9	299.2	305.4	306.5	306.5	303.8	300.4	295.5	291.6
23°	280.0	285.7	291.0	297.3	303.6	304.8	304.9	302.1	298.7	293.6	289.5
23.5°	277.9	283.6	289.1	295.3	301.7	303.0	303.2	300.4	296.9	291.7	287.5
24°	275.7	281.6	287.0	293.4	299.9	301.1	301.4	298.7	295.1	289.7	285.5
24.5°	273.5	279.5	285.0	291.3	298.0	299.2	299.6	296.8	293.3	287.7	283.4
25°	271.2	277.3	282.9	289.2	295.9	297.2	297.7	294.9	291.4	285.7	281.2
25.5°	268.9	275.0	280.7	287.1	293.8	295.2	295.8	293.0	289.4	283.6	278.9
26°	266.5	272.7	278.5	284.9	291.6	293.1	293.8	291.1	287.4	281.5	276.6
26.5°	264.3	270.4	276.3	282.6	289.5	290.9	291.7	289.1	285.4	279.4	274.2
27°	261.9	268.2	274.1	280.3	287.3	288.7	289.6	287.1	283.3	277.2	272.0
27.5°	259.4	265.8	271.8	278.0	285.0	286.5	287.6	285.0	281.2	274.9	269.6
28°	256.9	263.4	269.4	275.7	282.6	284.1	285.4	282.9	279.0	272.6	267.1
28.5°	254.4	260.9	267.0	273.2	280.2	281.7	283.1	280.7	276.8	270.3	264.7
29°	251.9	258.5	264.5	270.7	277.8	279.2	280.8	278.5	274.5	268.0	262.1
29.5°	249.1	255.9	262.0	268.2	275.1	276.6	278.4	276.2	272.2	265.6	259.4
30°	246.5	253.3	259.4	265.5	272.5	274.1	276.1	273.9	269.9	263.0	256.7
30.5°	243.8	250.7	256.7	262.7	269.9	271.4	273.6	271.5	267.4	260.6	254.1
31°	241.1	248.0	254.0	260.0	267.1	268.6	271.0	269.1	265.0	258.0	251.3
31.5°	238.1	245.2	251.3	257.2	264.4	265.8	268.4	266.5	262.5	255.2	248.5
32°	235.3	242.5	248.5	254.2	261.4	262.8	265.7	264.0	259.9	252.6	245.6
32.5°	232.3	239.5	245.6	251.2	258.4	259.8	262.9	261.2	257.2	249.8	242.6
33°	229.3	236.6	242.6	248.0	255.2	256.7	260.0	258.5	254.5	246.9	239.4
33.5°	226.0	233.5	239.5	244.9	251.9	253.6	257.0	255.7	251.7	244.0	236.3
34°	223.0	230.3	236.4	241.5	248.6	250.4	254.0	252.8	248.8	241.1	233.1
34.5°	219.8	227.1	233.2	238.1	245.2	247.0	250.9	249.8	245.8	238.0	229.8
35°	216.3	223.8	229.8	234.6	241.8	243.4	247.7	246.7	242.9	234.8	226.5
35.5°	212.8	220.3	226.3	231.1	238.2	239.7	244.5	243.6	239.7	231.6	223.0
36°	209.1	216.8	222.8	227.4	234.5	236.0	241.1	240.4	236.5	228.3	219.5
36.5°	205.4	213.1	219.1	223.7	230.7	232.3	237.5	237.1	233.2	225.0	215.9
37°	201.6	209.3	215.3	219.7	226.8	228.4	233.9	233.6	229.7	221.5	212.1
37.5°	197.8	205.5	211.5	215.7	222.8	224.4	230.3	230.1	226.2	217.9	208.4
38°	193.7	201.5	207.5	211.6	218.8	220.3	226.6	226.6	222.6	214.2	204.6
38.5°	189.5	197.5	203.3	207.3	214.6	216.2	222.9	222.8	219.0	210.3	200.7
39°	185.3	193.3	199.1	203.1	210.3	211.9	218.9	219.0	215.3	206.4	196.9
39.5°	181.0	189.0	194.8	198.7	206.0	207.4	214.9	215.1	211.5	202.5	192.8
40°	176.5	184.8	190.5	194.3	201.4	202.9	210.7	211.2	207.5	198.6	188.7
40.5°	172.1	180.2	186.1	189.7	196.9	198.4	206.4	207.0	203.4	194.4	184.5
41°	167.6	175.6	181.5	185.0	192.2	193.8	202.1	202.8	199.2	190.2	180.2
41.5°	163.2	171.2	177.0	180.3	187.6	189.1	197.7	198.6	195.0	186.1	175.9
42°	158.6	166.6	172.3	175.6	183.0	184.3	193.2	194.3	190.8	181.7	171.7
42.5°	154.0	162.0	167.6	171.0	178.1	179.4	188.6	189.7	186.4	177.3	167.4
43°	149.6	157.4	163.0	166.2	173.3	174.5	183.9	185.1	182.0	172.9	163.0
43.5°	145.0	152.8	158.3	161.5	168.4	169.5	179.2	180.6	177.4	168.3	158.6
44°	140.5	148.2	153.6	156.6	163.5	164.6	174.3	175.9	172.9	163.8	154.1
44.5°	136.2	143.7	148.9	151.8	158.6	159.7	169.5	171.3	168.2	159.5	149.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	131.9	139.1	144.4	147.1	153.7	154.8	164.5	166.6	163.6	155.0	145.6
45.5°	127.6	134.7	139.9	142.4	148.9	149.9	159.8	161.8	159.1	150.4	141.2
46°	123.4	130.5	135.3	137.9	144.2	144.9	154.8	157.0	154.5	145.9	137.0
46.5°	119.3	126.1	130.9	133.3	139.4	140.0	150.0	152.2	149.9	141.3	132.8
47°	115.3	121.9	126.5	128.8	134.6	135.2	145.0	147.6	145.3	136.9	128.6
47.5°	111.3	117.7	122.1	124.4	130.1	130.6	140.3	142.9	140.8	132.6	124.5
48°	107.5	113.6	118.0	119.9	125.5	125.9	135.5	138.3	136.3	128.3	120.5
48.5°	103.7	109.8	113.9	115.7	121.1	121.3	130.8	133.8	131.8	124.1	116.6
49°	100.0	106.0	110.0	111.5	116.7	116.9	126.2	129.3	127.4	119.9	112.6
49.5°	96.7	102.2	106.1	107.5	112.4	112.6	121.6	124.8	123.1	115.7	108.9
50°	93.2	98.7	102.3	103.6	108.2	108.3	117.2	120.3	118.9	111.6	105.2
50.5°	89.8	95.2	98.5	99.8	104.0	104.2	112.8	115.9	114.7	107.7	101.5
51°	86.5	91.8	94.9	96.0	100.1	100.1	108.5	111.7	110.5	103.9	97.9
51.5°	83.5	88.3	91.4	92.3	96.3	96.3	104.4	107.6	106.6	100.2	94.4
52°	80.5	85.1	88.1	88.8	92.6	92.6	100.2	103.6	102.6	96.6	91.1
52.5°	77.6	82.0	84.8	85.5	89.0	89.0	96.3	99.7	98.9	93.1	87.8
53°	74.6	78.9	81.6	82.3	85.7	85.5	92.6	95.9	95.3	89.6	84.6
53.5°	72.0	76.0	78.6	79.0	82.3	82.2	88.9	92.1	91.7	86.2	81.6
54°	69.3	73.2	75.5	76.0	79.1	78.9	85.4	88.4	88.2	83.0	78.6
54.5°	66.8	70.5	72.7	73.0	76.1	75.8	82.0	84.9	84.7	79.8	75.6
55°	64.3	67.8	69.9	70.2	73.0	72.7	78.6	81.6	81.4	76.8	72.8
55.5°	62.0	65.2	67.3	67.4	70.2	69.9	75.4	78.4	78.3	73.8	70.1
56°	59.6	62.8	64.6	64.9	67.5	67.3	72.4	75.1	75.1	71.0	67.5
56.5°	57.4	60.4	62.1	62.3	65.1	64.6	69.5	72.1	72.3	68.3	65.1
57°	55.2	58.1	59.7	59.9	62.5	62.0	66.8	69.1	69.4	65.8	62.6
57.5°	53.2	56.0	57.3	57.6	60.1	59.5	64.0	66.3	66.7	63.0	60.2
58°	51.2	53.8	55.2	55.4	57.7	57.2	61.3	63.6	63.9	60.6	57.8
58.5°	49.3	51.8	53.0	53.3	55.5	55.2	58.9	61.0	61.2	58.2	55.5
59°	47.5	49.8	51.0	51.1	53.5	53.0	56.5	58.5	58.8	55.9	53.5
59.5°	45.7	47.8	49.1	49.0	51.4	51.0	54.1	56.0	56.3	53.7	51.4
60°	44.0	46.0	47.1	47.2	49.4	49.1	52.0	53.7	54.0	51.5	49.4
60.5°	42.4	44.3	45.2	45.4	47.5	47.1	50.0	51.3	51.8	49.4	47.5
61°	40.8	42.6	43.4	43.6	45.7	45.3	47.8	49.3	49.6	47.5	45.5
61.5°	39.1	41.0	41.7	42.0	44.0	43.6	45.8	47.1	47.5	45.5	43.8
62°	37.6	39.3	40.1	40.3	42.4	41.8	44.0	45.1	45.5	43.6	42.1
62.5°	36.2	37.8	38.5	38.7	40.7	40.4	42.2	43.2	43.6	41.8	40.5
63°	35.0	36.2	37.0	37.2	39.2	38.8	40.5	41.5	41.8	40.2	38.8
63.5°	33.6	35.0	35.6	35.8	37.8	37.4	38.8	39.6	40.1	38.6	37.3
64°	32.3	33.7	34.0	34.3	36.4	35.8	37.3	37.8	38.3	37.0	35.9
64.5°	31.1	32.2	32.6	33.0	35.1	34.4	35.8	36.2	36.7	35.5	34.5
65°	30.0	31.0	31.4	31.9	33.7	33.1	34.3	34.7	35.3	33.9	33.2
65.5°	28.9	29.8	30.0	30.5	32.4	32.0	32.9	33.2	33.7	32.4	32.0
66°	27.8	28.7	28.9	29.4	31.3	30.7	31.7	31.9	32.1	31.2	30.6
66.5°	26.9	27.7	28.0	28.2	30.0	29.6	30.3	30.5	30.7	29.9	29.5
67°	25.7	26.5	27.0	27.1	28.9	28.5	29.1	29.2	29.5	28.8	28.5



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	24.8	25.5	25.6	26.2	28.0	27.4	28.0	28.1	28.1	27.5	27.2
68°	24.0	24.6	24.7	25.1	27.0	26.3	27.0	26.9	27.1	26.3	26.3
68.5°	23.0	23.7	23.8	24.1	25.8	25.4	25.7	25.7	25.8	25.2	25.3
69°	22.3	22.6	22.7	23.2	24.9	24.3	24.9	24.7	24.8	24.2	24.2
69.5°	21.4	22.0	21.9	22.3	23.9	23.7	23.8	23.8	23.8	23.4	23.5
70°	20.6	21.0	20.9	21.5	23.1	22.5	22.8	22.6	22.6	22.3	22.4
70.5°	19.8	20.3	20.3	20.5	22.3	21.9	22.1	21.8	21.8	21.4	21.6
71°	18.9	19.4	19.4	19.9	21.5	21.0	21.1	20.7	20.7	20.5	20.8
71.5°	18.3	18.7	18.8	19.1	20.7	20.3	20.3	20.1	20.0	19.8	20.3
72°	17.6	18.0	18.0	18.6	20.2	19.5	19.4	19.1	19.0	18.9	19.3
72.5°	17.1	17.2	17.2	17.8	19.4	18.8	18.7	18.5	18.4	18.2	18.7
73°	16.3	16.6	16.5	17.1	18.7	18.2	17.9	17.8	17.6	17.4	18.0
73.5°	15.7	16.0	16.0	16.4	18.1	17.4	17.2	17.1	17.0	16.8	17.2
74°	15.3	15.4	15.5	15.9	17.3	16.8	16.5	16.4	16.3	16.2	16.5
74.5°	14.8	14.8	14.8	15.4	17.0	16.3	15.9	15.7	15.5	15.6	16.1
75°	14.0	14.5	14.3	14.8	16.3	15.6	15.4	15.3	15.2	14.9	15.4
75.5°	13.4	13.8	13.9	14.2	15.5	15.0	14.6	14.6	14.6	14.5	14.8
76°	13.0	13.3	13.5	13.8	15.2	14.5	14.0	14.0	13.9	14.0	14.5
76.5°	12.3	12.7	12.7	13.4	14.5	14.0	13.7	13.6	13.4	13.6	13.8
77°	11.7	12.1	12.1	12.6	13.9	13.5	13.1	13.1	12.9	12.8	13.5
77.5°	11.1	11.6	11.7	12.0	13.4	12.8	12.4	12.5	12.3	12.2	12.6
78°	10.6	11.1	11.0	11.5	12.8	12.2	12.0	12.1	11.9	11.7	12.0
78.5°	10.2	10.5	10.6	10.7	12.1	11.7	11.6	11.6	11.4	11.1	11.6
79°	9.2	9.9	9.9	10.5	11.6	11.0	11.0	10.8	10.7	10.7	10.7
79.5°	8.8	9.2	9.1	9.7	11.0	10.6	10.5	10.6	10.4	10.1	10.4
80°	8.2	8.8	8.8	8.9	10.5	10.1	9.9	10.0	9.7	9.3	9.6
80.5°	7.4	8.2	8.1	8.6	9.9	9.4	9.3	9.2	9.0	8.9	8.8
81°	7.1	7.3	7.3	7.9	9.0	8.8	8.8	8.8	8.7	8.3	8.3
81.5°	6.4	7.0	7.1	7.1	8.7	8.4	8.3	8.3	8.0	7.5	7.7
82°	5.7	6.2	6.4	6.6	7.9	7.6	7.8	7.5	7.2	7.1	7.2
82.5°	5.3	5.6	5.7	6.0	7.2	7.2	7.1	7.2	6.9	6.4	6.5
83°	4.7	5.3	5.3	5.4	6.8	6.5	6.5	6.5	6.2	5.7	5.6
83.5°	4.0	4.6	4.7	4.8	6.0	5.8	5.9	5.7	5.5	5.4	5.4
84°	3.8	3.9	4.0	4.5	5.5	5.5	5.5	5.4	5.2	4.7	4.7
84.5°	3.0	3.6	3.8	3.8	4.8	4.8	4.8	4.8	4.6	4.0	3.9
85°	2.4	2.9	3.0	3.1	4.5	4.3	4.5	4.1	3.9	3.8	3.6
85.5°	2.2	2.2	2.4	2.8	3.8	3.8	3.8	3.8	3.6	3.0	2.9
86°	1.7	2.1	2.2	2.2	3.2	3.1	3.1	3.0	2.9	2.4	2.3
86.5°	1.5	1.4	1.6	2.0	2.8	2.8	2.7	2.4	2.3	2.2	2.1
87°	0.6	0.8	1.3	1.2	2.2	2.2	2.2	2.2	2.1	1.7	1.3
87.5°	0.5	0.5	0.6	0.7	2.0	2.0	1.9	1.6	1.4	1.5	0.9
88°	0.0	0.0	0.5	0.5	1.3	1.3	1.3	1.5	0.9	0.6	0.5
88.5°	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.6	0.5	0.5	0.0
89°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.3	0.0	0.3
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

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	0.3	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	338.2	338.2	338.2	338.2	338.2	338.2
0.5°	339.0	337.7	337.7	337.6	337.7	337.9
1°	338.8	337.4	337.3	337.2	337.3	337.6
1.5°	338.5	336.9	336.8	336.7	336.9	337.2
2°	338.1	336.4	336.2	336.2	336.4	336.8
2.5°	337.9	336.0	335.8	335.7	336.0	336.3
3°	337.4	335.4	335.2	335.0	335.4	335.9
3.5°	336.9	334.7	334.5	334.3	334.7	335.3
4°	336.4	334.1	333.8	333.7	334.1	334.7
4.5°	335.9	333.3	333.1	332.8	333.4	334.1
5°	335.3	332.5	332.3	332.1	332.6	333.4
5.5°	334.6	331.7	331.4	331.2	331.8	332.7
6°	333.9	330.8	330.5	330.3	330.9	332.0
6.5°	333.2	329.9	329.6	329.3	330.1	331.1
7°	332.3	328.9	328.6	328.3	329.1	330.2
7.5°	331.6	327.9	327.5	327.2	328.0	329.2
8°	330.7	326.8	326.4	326.2	326.9	328.3
8.5°	329.8	325.8	325.3	325.0	325.8	327.2
9°	328.8	324.7	324.1	323.9	324.6	326.2
9.5°	327.8	323.6	322.9	322.6	323.5	325.1
10°	326.7	322.4	321.7	321.4	322.3	324.0
10.5°	325.7	321.1	320.4	320.0	321.0	322.7
11°	324.5	319.9	319.0	318.7	319.7	321.5
11.5°	323.4	318.6	317.7	317.2	318.5	320.2
12°	322.3	317.1	316.3	315.8	317.0	318.8
12.5°	320.9	315.8	314.8	314.4	315.5	317.5
13°	319.7	314.4	313.4	312.8	314.1	316.0
13.5°	318.4	312.9	311.9	311.2	312.7	314.6
14°	316.9	311.3	310.3	309.5	311.0	313.0
14.5°	315.5	309.8	308.7	307.9	309.4	311.4
15°	314.0	308.2	307.1	306.2	307.8	309.8
15.5°	312.6	306.5	305.3	304.5	306.1	308.2
16°	311.0	304.9	303.6	302.8	304.3	306.6
16.5°	309.4	303.2	301.8	301.0	302.6	304.9
17°	307.8	301.3	300.0	299.1	300.8	303.2
17.5°	306.1	299.5	298.3	297.3	299.0	301.3
18°	304.4	297.7	296.4	295.4	297.2	299.5
18.5°	302.7	295.8	294.5	293.4	295.3	297.6
19°	300.9	294.0	292.6	291.5	293.4	295.8
19.5°	299.2	292.1	290.6	289.5	291.4	293.9
20°	297.3	290.2	288.6	287.5	289.4	292.0
20.5°	295.5	288.2	286.7	285.5	287.5	290.1
21°	293.5	286.2	284.7	283.5	285.5	288.1
21.5°	291.6	284.1	282.6	281.4	283.4	286.0
22°	289.6	282.1	280.5	279.2	281.4	284.0



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	287.5	280.0	278.4	277.1	279.2	281.9
23°	285.6	278.0	276.1	275.0	277.0	280.0
23.5°	283.4	275.8	274.0	272.7	274.8	277.9
24°	281.3	273.5	271.8	270.4	272.6	275.7
24.5°	279.1	271.2	269.5	268.2	270.3	273.5
25°	276.8	268.9	267.2	265.8	268.1	271.2
25.5°	274.4	266.4	264.9	263.4	265.7	268.9
26°	272.2	264.1	262.5	260.9	263.3	266.5
26.5°	269.9	261.6	260.0	258.6	260.9	264.3
27°	267.4	259.2	257.5	256.1	258.5	261.9
27.5°	264.9	256.7	255.0	253.6	256.0	259.4
28°	262.4	254.0	252.6	250.9	253.5	256.9
28.5°	259.8	251.3	249.9	248.3	250.9	254.4
29°	257.1	248.7	247.2	245.6	248.3	251.9
29.5°	254.4	245.8	244.6	243.0	245.6	249.1
30°	251.7	243.1	241.9	240.2	242.9	246.5
30.5°	248.8	240.2	239.1	237.4	240.1	243.8
31°	245.9	237.2	236.3	234.6	237.3	241.1
31.5°	243.0	234.2	233.4	231.6	234.5	238.1
32°	239.9	231.1	230.4	228.8	231.6	235.3
32.5°	236.8	227.9	227.4	225.7	228.6	232.3
33°	233.5	224.6	224.2	222.6	225.6	229.3
33.5°	230.3	221.3	221.0	219.5	222.4	226.0
34°	227.0	217.9	217.7	216.3	219.2	223.0
34.5°	223.5	214.2	214.3	213.0	216.0	219.8
35°	219.9	210.5	210.9	209.6	212.6	216.3
35.5°	216.3	206.8	207.3	206.1	209.1	212.8
36°	212.5	202.9	203.7	202.4	205.6	209.1
36.5°	208.7	199.0	200.0	198.6	201.9	205.4
37°	204.8	194.9	196.1	194.8	198.1	201.6
37.5°	200.9	190.8	192.1	190.9	194.1	197.8
38°	196.9	186.7	188.1	186.9	190.1	193.7
38.5°	192.8	182.4	184.1	182.7	185.9	189.5
39°	188.6	178.0	179.9	178.4	181.8	185.3
39.5°	184.5	173.6	175.5	174.0	177.5	181.0
40°	180.2	169.2	171.2	169.6	173.2	176.5
40.5°	175.9	164.8	166.7	165.3	168.7	172.1
41°	171.6	160.4	162.1	161.0	164.2	167.6
41.5°	167.3	156.0	157.7	156.5	159.8	163.2
42°	162.8	151.6	153.3	152.1	155.4	158.6
42.5°	158.3	147.0	148.8	147.7	151.0	154.0
43°	154.0	142.5	144.3	143.2	146.6	149.6
43.5°	149.6	138.2	140.0	138.8	142.2	145.0
44°	145.2	133.9	135.5	134.6	137.7	140.5
44.5°	140.9	129.6	131.2	130.2	133.4	136.2



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	136.6	125.5	126.9	126.0	129.0	131.9
45.5°	132.5	121.3	122.8	121.8	124.9	127.6
46°	128.2	117.4	118.7	117.8	120.7	123.4
46.5°	124.0	113.3	114.8	113.7	116.7	119.3
47°	119.9	109.5	110.8	109.8	112.7	115.3
47.5°	116.1	105.8	107.1	106.0	108.8	111.3
48°	112.2	102.1	103.4	102.4	105.1	107.5
48.5°	108.4	98.7	99.7	98.9	101.5	103.7
49°	104.8	95.3	96.2	95.5	97.9	100.0
49.5°	101.2	91.9	92.8	92.1	94.5	96.7
50°	97.7	88.6	89.6	88.9	91.3	93.2
50.5°	94.2	85.5	86.3	85.6	88.0	89.8
51°	90.9	82.4	83.3	82.5	84.7	86.5
51.5°	87.7	79.5	80.3	79.6	81.7	83.5
52°	84.6	76.6	77.2	76.7	78.6	80.5
52.5°	81.6	73.9	74.6	74.0	75.8	77.6
53°	78.5	71.2	71.8	71.3	73.1	74.6
53.5°	75.7	68.7	69.2	68.8	70.5	72.0
54°	72.8	66.2	66.8	66.2	67.9	69.3
54.5°	70.3	63.7	64.3	63.9	65.4	66.8
55°	67.7	61.3	61.9	61.5	63.0	64.3
55.5°	65.3	59.2	59.5	59.2	60.6	62.0
56°	62.8	57.1	57.4	57.2	58.5	59.6
56.5°	60.5	55.1	55.4	55.1	56.3	57.4
57°	58.3	53.0	53.5	53.0	54.4	55.2
57.5°	56.1	51.1	51.6	51.1	52.2	53.2
58°	54.1	49.2	49.6	49.2	50.4	51.2
58.5°	52.1	47.5	47.7	47.5	48.6	49.3
59°	50.1	45.7	46.0	45.8	46.7	47.5
59.5°	48.3	44.1	44.4	44.1	45.0	45.7
60°	46.4	42.5	42.9	42.5	43.4	44.0
60.5°	44.8	41.0	41.3	41.0	41.9	42.4
61°	43.1	39.5	39.9	39.5	40.4	40.8
61.5°	41.6	38.1	38.5	38.1	38.7	39.1
62°	39.9	36.8	37.1	36.8	37.3	37.6
62.5°	38.6	35.6	35.7	35.5	35.8	36.2
63°	37.2	34.1	34.5	34.0	34.6	35.0
63.5°	35.8	32.9	33.3	32.9	33.5	33.6
64°	34.3	31.9	32.1	31.8	32.1	32.3
64.5°	33.1	30.7	31.0	30.7	31.0	31.1
65°	31.9	29.7	30.0	29.7	29.9	30.0
65.5°	30.7	28.8	28.9	28.6	28.8	28.9
66°	29.7	27.7	28.0	27.6	27.9	27.8
66.5°	28.8	27.0	27.1	26.8	26.9	26.9
67°	27.6	25.8	26.1	25.7	25.8	25.7



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	26.7	25.1	25.2	25.0	25.0	24.8
68°	25.6	24.1	24.3	24.0	24.0	24.0
68.5°	24.9	23.4	23.7	23.2	23.2	23.0
69°	24.0	22.4	22.7	22.3	22.3	22.3
69.5°	23.1	21.9	22.2	21.7	21.6	21.4
70°	22.3	21.0	21.3	20.8	20.8	20.6
70.5°	21.7	20.5	20.5	20.3	20.3	19.8
71°	20.7	19.7	19.8	19.5	19.4	18.9
71.5°	20.1	19.0	19.1	18.9	18.7	18.3
72°	19.3	18.4	18.7	18.2	18.1	17.6
72.5°	18.8	17.9	18.0	17.4	17.3	17.1
73°	18.1	17.2	17.2	17.0	16.9	16.3
73.5°	17.4	16.5	16.6	16.4	16.2	15.7
74°	17.1	16.2	16.1	15.7	15.5	15.3
74.5°	16.3	15.6	15.4	15.2	15.1	14.8
75°	15.7	15.0	14.9	14.7	14.5	14.0
75.5°	15.4	14.5	14.6	14.0	13.9	13.4
76°	14.7	13.9	13.9	13.5	13.3	13.0
76.5°	14.0	13.2	13.3	12.9	12.7	12.3
77°	13.4	12.5	12.5	12.2	12.0	11.7
77.5°	12.9	11.8	11.9	11.6	11.5	11.1
78°	12.2	11.2	11.3	10.8	10.8	10.6
78.5°	11.7	10.6	10.6	10.5	10.4	10.2
79°	10.8	9.9	9.9	9.6	9.5	9.2
79.5°	10.4	9.0	9.2	8.9	8.8	8.8
80°	9.6	8.7	8.7	8.4	8.3	8.2
80.5°	8.9	8.0	8.0	7.5	7.7	7.4
81°	8.5	7.2	7.1	7.2	7.1	7.1
81.5°	7.5	6.8	6.6	6.4	6.5	6.4
82°	7.2	5.8	5.9	5.6	5.6	5.7
82.5°	6.4	5.5	5.4	4.9	5.3	5.3
83°	5.6	4.7	4.7	4.5	4.6	4.7
83.5°	5.1	3.9	3.9	3.8	3.9	4.0
84°	4.6	3.6	3.6	3.1	3.6	3.8
84.5°	3.9	2.9	2.9	2.7	2.9	3.0
85°	3.2	2.3	2.2	2.2	2.2	2.4
85.5°	2.8	2.0	2.0	1.6	2.1	2.2
86°	2.2	1.3	1.3	1.3	1.4	1.7
86.5°	1.6	0.9	0.8	0.7	1.0	1.5
87°	1.2	0.6	0.5	0.5	0.5	0.6
87.5°	0.7	0.0	0.0	0.0	0.3	0.5
88°	0.5	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0
89°	0.3	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P522089

CATALOG NUMBER: RLLV4069SE010WHDM-3000K-UNIT

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

(END OF REPORT)