

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: FAIL-SAFE

Report Number: P838004

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-2LO-40-120-EDD-90**

Issue Date: 5/21/2024

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

**Test Information**

Test Method: LM-79-08
Report Number: P838004
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-2LO-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

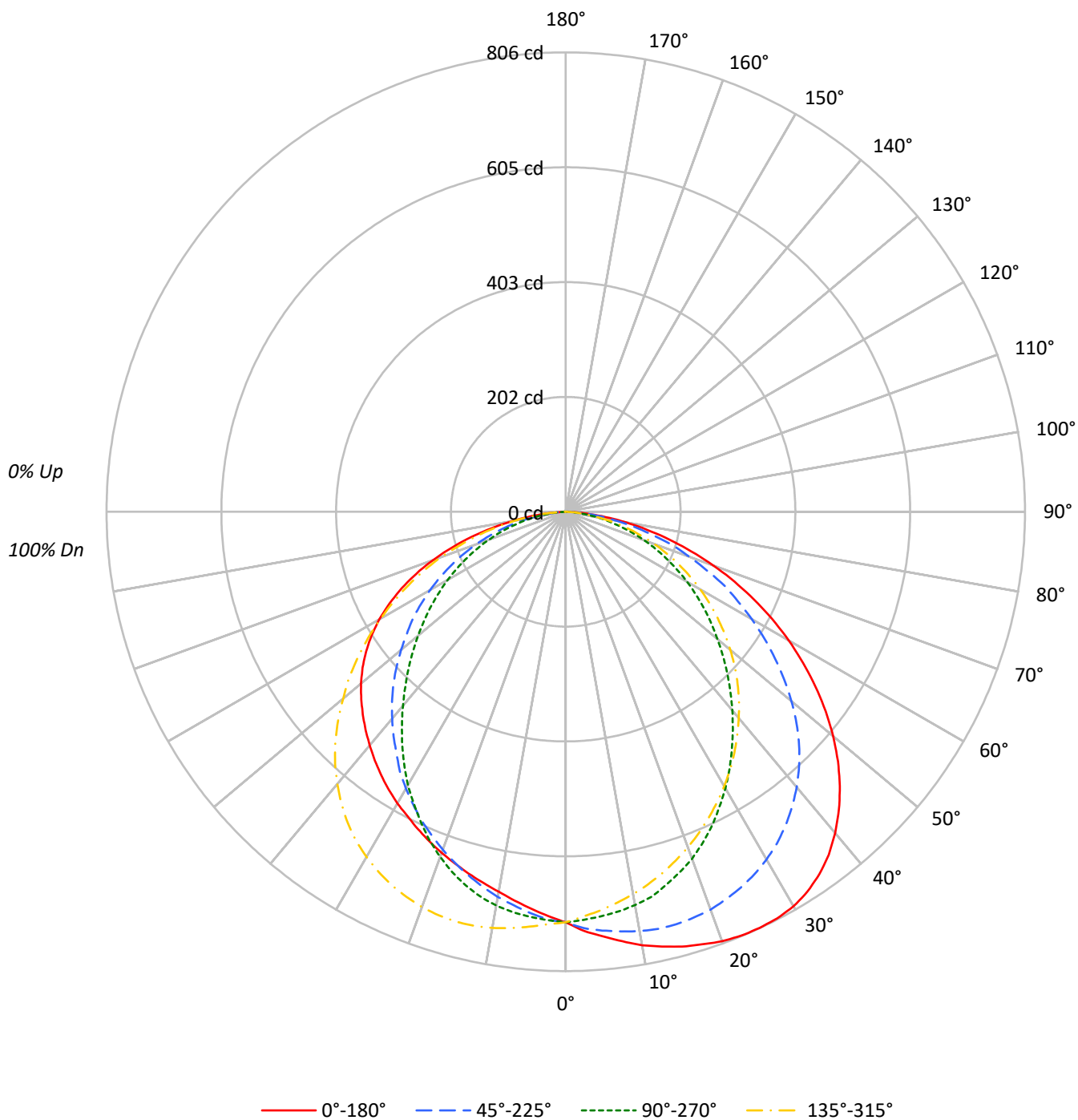
Lumens per Lamp: N/A
Luminaire Lumens: 2113.2 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): 120
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: 25 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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1938	1938	1938	1938
5°	2020	1924	1888	1928
10°	2110	1914	1850	1917
15°	2200	1890	1831	1891
20°	2296	1856	1824	1845
25°	2392	1804	1823	1785
30°	2484	1741	1835	1722
35°	2550	1669	1854	1643
40°	2584	1598	1880	1562
45°	2589	1525	1916	1486
50°	2565	1455	1963	1417
55°	2511	1391	2007	1352
60°	2433	1323	2034	1288
65°	2323	1245	2023	1216
70°	2171	1154	1951	1133
75°	1953	1029	1790	1024
80°	1657	862	1505	876
85°	1152	571	954	587

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	3.2
10°-20°	198.0	9.4
20°-30°	303.5	14.4
30°-40°	369.0	17.5
40°-50°	383.6	18.2
50°-60°	346.5	16.4
60°-70°	263.4	12.5
70°-80°	146.9	7.0
80°-90°	33.8	1.6
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°	569.9	27.0
0°-40°	938.9	44.4
0°-60°	1669.1	79.0
0°-90°	2113.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2113.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	720	720	720	720	720	
5°	748	712	699	714	748	72
15°	790	678	657	679	790	224
25°	806	608	614	601	806	372
35°	776	508	564	500	776	485
45°	680	401	504	391	680	524
55°	535	296	428	288	535	478
65°	365	196	318	191	365	361
75°	188	99	172	98	188	200
85°	37	18	31	19	37	47
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3
2.5°	736.2	725.5	725.7	735.1	727.8	731.4	721.3	725.2	724.0	724.8	716.6
5°	747.8	736.2	736.1	744.1	736.1	737.6	724.8	727.3	723.6	721.3	712.4
7.5°	760.1	748.5	747.3	754.4	743.8	742.6	728.5	728.5	721.8	715.9	707.5
10°	772.2	760.3	758.8	764.1	751.0	747.2	730.0	727.3	718.4	709.7	700.6
12.5°	781.3	769.2	768.0	771.4	756.6	749.5	730.0	724.8	711.7	699.4	692.4
15°	789.8	777.4	774.2	775.9	758.9	749.5	727.7	719.6	702.8	686.7	678.4
17.5°	795.9	784.0	780.8	780.6	760.1	746.7	722.6	711.5	691.4	671.9	663.7
20°	801.9	790.0	786.0	782.9	759.8	742.8	715.2	700.3	676.8	654.9	648.0
22.5°	805.0	792.7	788.3	783.8	757.6	735.7	706.2	687.2	660.3	634.3	628.5
25°	805.5	792.9	788.2	781.6	753.2	727.3	694.4	671.4	641.3	612.4	607.5
27.5°	804.1	790.3	785.6	777.7	746.7	717.1	680.5	653.4	621.2	589.2	584.0
30°	799.4	785.5	780.9	770.7	737.4	704.5	665.2	633.4	598.8	564.9	560.3
32.5°	790.0	776.4	772.7	762.5	727.3	689.9	647.4	611.9	574.1	541.7	535.0
35°	776.2	762.6	760.3	749.5	713.2	672.4	627.9	588.4	547.9	514.8	508.2
37.5°	758.3	746.8	743.3	732.7	696.6	652.6	605.5	562.8	521.2	485.6	481.5
40°	735.6	724.8	722.1	712.7	677.3	630.6	581.3	536.5	493.6	460.5	454.8
42.5°	709.7	699.6	698.1	688.4	653.4	606.2	555.1	509.1	464.9	433.0	427.3
45°	680.3	670.5	670.2	661.0	627.4	579.1	527.6	481.4	436.8	403.7	400.7
47.5°	647.9	639.1	639.1	630.6	598.3	549.4	499.2	452.5	408.6	379.4	374.0
50°	612.6	604.3	601.8	597.6	566.2	517.0	469.3	424.2	380.7	352.8	347.6
52.5°	574.9	567.9	569.6	561.8	531.4	483.2	439.0	392.5	352.7	327.3	322.1
55°	535.3	525.2	526.7	523.9	495.1	448.4	405.1	366.3	325.1	301.3	296.4
57.5°	494.1	481.0	486.4	484.7	456.5	412.8	374.0	336.5	297.7	275.7	271.0
60°	452.0	439.4	444.9	443.4	416.8	377.2	341.9	307.1	270.5	250.5	245.8
62.5°	408.6	397.0	402.1	400.9	376.5	340.7	310.0	278.1	243.1	225.1	220.8
65°	364.9	353.8	358.4	357.5	335.0	307.8	277.2	248.0	215.6	199.9	195.6
67.5°	320.2	310.0	314.2	314.2	293.5	267.5	244.3	217.6	188.5	175.1	171.0
70°	275.9	266.3	270.0	269.7	252.2	231.0	211.0	187.2	161.1	150.0	146.7
72.5°	231.2	222.8	226.1	225.8	211.2	197.6	177.8	157.1	134.4	125.5	122.5
75°	187.8	179.9	183.1	182.8	170.9	158.1	144.8	127.7	108.2	102.0	99.0
77.5°	146.5	138.4	141.1	141.1	132.4	123.2	112.6	99.3	85.5	78.8	76.6
80°	106.9	103.0	101.6	101.8	95.9	89.9	84.5	71.7	61.7	57.1	55.6
82.5°	70.2	67.0	65.7	66.0	62.7	59.0	55.6	46.7	40.0	37.3	36.5
85°	37.3	34.9	33.8	34.6	33.9	31.9	30.2	24.2	20.0	19.0	18.5
87.5°	11.8	10.2	9.4	12.4	10.6	9.4	9.1	7.2	5.5	5.5	5.4
90°	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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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3
2.5°	719.3	719.3	712.7	711.2	710.5	711.4	704.8	703.6	713.1	709.9	702.6
5°	713.6	713.2	704.0	702.3	702.3	701.3	693.9	692.2	701.6	698.9	691.0
7.5°	706.5	705.5	694.6	693.4	691.7	691.0	682.8	681.6	689.7	688.0	680.6
10°	697.9	696.9	684.0	683.1	681.3	680.0	672.2	671.4	679.6	676.9	671.1
12.5°	686.7	684.8	671.6	670.7	669.2	668.7	661.1	660.8	669.9	667.2	661.0
15°	671.9	670.4	655.6	655.9	656.1	656.1	650.0	649.7	658.6	657.4	650.7
17.5°	655.6	653.6	639.5	640.5	641.6	643.0	638.3	639.1	648.5	647.0	641.0
20°	637.1	635.1	621.3	624.2	626.7	629.4	626.4	628.7	637.4	636.8	632.2
22.5°	616.4	614.4	601.7	606.0	610.2	615.3	613.9	616.6	625.9	625.7	621.7
25°	591.2	591.7	580.5	585.9	592.9	600.0	600.5	604.9	615.1	614.1	610.4
27.5°	567.7	568.4	556.5	565.5	574.9	584.0	586.2	592.3	602.7	601.8	598.6
30°	543.0	543.9	532.3	544.7	556.1	567.2	571.9	580.2	590.7	590.7	587.4
32.5°	517.3	518.8	506.7	523.4	536.6	549.6	557.8	566.4	578.5	578.1	575.3
35°	490.9	492.6	481.5	502.7	516.0	531.8	542.0	553.4	564.2	564.4	562.2
37.5°	464.1	466.1	456.0	479.2	494.3	512.9	526.1	537.5	549.4	550.1	548.1
40°	437.3	439.5	430.8	453.1	472.3	493.1	508.2	521.7	534.8	535.1	533.8
42.5°	410.6	413.0	406.4	428.3	449.9	472.3	490.1	505.4	518.8	519.7	518.2
45°	384.6	386.6	381.9	405.8	426.6	451.0	471.4	488.8	502.4	503.5	503.0
47.5°	358.7	360.6	356.4	378.2	402.2	428.1	451.8	470.9	485.4	486.7	486.4
50°	333.3	334.9	330.3	353.2	377.0	404.6	429.3	451.5	467.6	468.9	468.8
52.5°	308.1	309.7	305.8	329.8	351.5	380.6	407.4	431.5	447.4	449.4	449.8
55°	283.8	284.4	281.4	304.4	325.4	355.9	386.8	410.1	426.1	427.8	428.8
57.5°	259.4	259.6	257.1	279.1	299.2	330.3	362.7	387.3	402.4	404.1	405.6
60°	235.2	235.1	232.2	253.5	272.9	303.6	337.4	361.7	376.4	377.9	379.9
62.5°	211.2	210.7	208.2	227.8	246.0	276.4	310.3	333.8	347.8	348.8	351.5
65°	187.3	186.8	184.5	202.6	219.1	248.2	281.4	303.8	316.4	317.7	317.2
67.5°	163.8	162.8	161.0	177.3	192.2	219.1	251.0	272.4	282.8	283.9	287.1
70°	140.3	139.1	134.9	152.2	165.3	189.4	219.1	238.1	246.8	248.0	247.5
72.5°	117.1	115.9	111.4	127.4	138.4	159.4	186.0	201.8	209.3	210.4	210.4
75°	94.6	93.9	91.1	103.2	112.4	129.5	152.1	165.2	171.0	172.2	171.9
77.5°	72.9	72.4	69.6	80.0	87.2	100.0	118.1	128.4	132.7	134.1	136.9
80°	52.3	52.1	47.5	57.8	61.0	71.7	85.0	92.9	95.3	97.1	99.1
82.5°	33.4	33.6	29.1	37.8	39.1	46.0	54.3	59.1	60.8	62.3	63.8
85°	16.3	17.0	14.4	20.0	20.2	23.7	27.2	29.1	29.7	30.9	32.3
87.5°	4.2	4.9	2.7	5.7	5.0	6.6	7.6	8.1	7.9	8.7	9.2
90°	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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CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3
2.5°	705.0	710.4	707.7	716.4	719.8	714.4	723.8	724.0	717.3	725.2	729.5
5°	694.1	699.6	697.9	707.0	711.2	706.5	717.9	720.1	713.6	722.5	729.5
7.5°	683.0	689.5	687.3	696.6	701.6	697.9	710.2	713.7	708.7	718.4	727.8
10°	673.4	678.9	676.6	686.3	690.7	687.7	699.8	706.3	701.6	713.6	724.8
12.5°	664.0	668.5	665.8	673.9	678.1	674.2	689.0	695.1	691.7	704.1	718.6
15°	651.9	656.9	653.2	660.5	663.7	660.3	672.4	682.8	678.6	692.2	708.2
17.5°	642.7	645.5	640.5	646.2	648.0	643.5	655.8	666.0	663.0	677.8	696.3
20°	632.4	634.8	627.7	630.9	630.7	625.0	636.3	646.4	644.3	660.6	681.6
22.5°	621.0	622.2	613.9	614.6	614.3	604.9	614.9	625.2	624.3	640.8	664.3
25°	608.9	609.1	598.5	598.1	594.4	583.3	592.3	603.8	601.3	619.1	643.8
27.5°	597.0	595.3	582.5	579.5	573.6	560.3	568.2	578.6	577.1	594.6	622.0
30°	584.2	582.0	566.4	560.8	552.3	537.0	543.5	553.3	554.1	569.4	598.1
32.5°	572.1	566.5	549.2	541.2	530.4	512.6	516.1	526.1	527.4	542.9	572.4
35°	556.5	552.8	531.4	517.7	507.1	487.6	491.3	498.2	500.2	515.3	545.4
37.5°	541.7	535.8	513.1	496.3	482.7	462.2	463.2	470.3	472.3	487.6	517.3
40°	526.4	518.0	493.6	474.0	458.3	436.8	435.7	443.1	444.6	459.5	486.4
42.5°	510.1	500.0	472.6	451.1	433.1	411.3	408.9	415.3	417.0	431.6	458.0
45°	493.6	481.5	451.1	427.6	407.9	385.6	383.2	388.1	390.6	404.4	429.8
47.5°	476.2	462.0	428.9	402.7	382.4	360.1	357.2	362.1	364.1	377.7	401.7
50°	457.8	440.7	406.1	377.2	357.0	335.0	330.8	336.5	338.4	351.2	374.7
52.5°	437.7	418.7	381.7	351.5	331.3	310.3	305.3	310.8	313.0	325.4	347.1
55°	416.3	395.8	357.2	327.8	306.0	285.5	281.3	283.4	288.1	299.9	320.1
57.5°	392.3	372.0	331.3	301.4	280.4	260.8	257.2	259.2	263.6	275.0	293.2
60°	366.8	345.3	304.9	275.0	254.7	236.1	232.9	234.7	239.4	249.8	266.6
62.5°	341.6	317.4	277.7	248.0	229.5	212.2	211.4	210.7	215.1	225.1	239.9
65°	311.0	287.8	249.3	221.1	204.3	188.7	185.3	186.8	191.0	200.3	215.7
67.5°	278.2	257.2	220.3	194.2	179.3	165.3	162.5	163.1	167.5	175.6	189.0
70°	243.5	225.0	190.5	167.2	154.6	141.5	139.6	139.8	144.0	151.0	162.8
72.5°	207.0	190.4	160.5	140.5	130.0	120.6	119.0	116.9	120.8	126.9	136.9
75°	169.9	155.2	130.5	114.2	106.0	98.1	96.6	94.6	98.5	103.7	111.6
77.5°	132.4	120.6	101.5	88.9	82.5	76.6	75.3	73.1	77.0	80.8	87.0
80°	95.8	87.2	75.8	62.5	60.3	56.5	55.1	52.8	56.5	59.0	63.7
82.5°	61.8	56.1	49.6	40.3	40.0	37.1	36.5	33.8	37.1	38.6	42.2
85°	31.3	28.6	26.9	20.5	21.2	19.3	19.2	16.3	19.0	19.7	21.7
87.5°	8.9	9.4	8.4	5.0	6.4	6.0	6.0	4.4	6.0	6.0	6.9
90°	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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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	720.3	720.3	720.3	720.3	720.3	720.3	720.3	720.3
2.5°	721.0	723.8	724.5	724.3	726.2	736.2	732.9	736.2
5°	722.6	729.0	730.7	733.0	736.1	747.5	743.8	747.8
7.5°	723.6	733.2	736.9	741.4	746.3	759.1	756.1	760.1
10°	723.6	736.1	741.4	749.0	755.6	770.3	767.5	772.2
12.5°	720.6	736.6	744.1	754.7	763.1	779.1	777.9	781.3
15°	714.4	734.1	744.5	758.1	768.5	786.3	785.8	789.8
17.5°	706.0	729.7	742.3	759.4	772.5	792.5	793.7	795.9
20°	695.4	721.5	737.9	758.9	775.4	797.4	798.9	801.9
22.5°	681.5	711.5	731.4	756.7	775.7	799.4	802.1	805.0
25°	665.0	699.6	722.8	752.5	774.0	799.2	802.9	805.5
27.5°	646.2	684.2	711.9	745.8	769.3	796.6	801.1	804.1
30°	624.3	667.7	699.4	737.1	763.0	791.5	796.4	799.4
32.5°	601.8	649.5	684.7	725.8	753.7	783.5	787.7	790.0
35°	577.3	627.5	666.9	711.4	741.8	770.5	773.7	776.2
37.5°	550.6	603.7	646.5	695.1	725.0	752.5	755.4	758.3
40°	523.0	578.6	623.7	675.1	705.0	730.5	733.6	735.6
42.5°	495.3	550.9	599.3	651.6	681.3	705.8	707.7	709.7
45°	467.2	522.2	571.9	625.5	654.9	677.9	678.6	680.3
47.5°	438.7	492.5	541.8	595.8	624.8	645.8	646.5	647.9
50°	410.0	462.7	509.8	563.7	592.1	614.3	611.2	612.6
52.5°	381.7	431.5	479.5	529.1	557.1	576.8	577.6	574.9
55°	354.0	400.9	445.1	492.8	519.5	534.8	534.3	535.3
57.5°	325.9	370.0	410.5	454.1	480.2	494.6	497.7	494.1
60°	297.4	338.7	375.0	414.5	439.7	451.8	455.3	452.0
62.5°	269.0	307.0	339.9	374.3	397.7	412.6	412.3	408.6
65°	240.6	275.0	304.4	333.7	354.0	369.0	368.3	364.9
67.5°	214.4	242.8	269.2	292.8	310.5	320.7	324.3	320.2
70°	185.5	210.0	233.2	252.2	266.8	276.0	279.4	275.9
72.5°	156.6	177.4	193.7	212.0	223.3	231.0	234.5	231.2
75°	128.0	145.2	158.4	172.7	180.6	187.2	191.2	187.8
77.5°	100.3	113.6	124.2	134.6	143.7	145.2	148.7	146.5
80°	73.9	83.5	91.2	98.1	104.7	105.3	108.2	106.9
82.5°	49.2	55.6	57.6	64.9	69.1	68.4	71.2	70.2
85°	26.0	29.9	33.4	35.6	38.0	35.8	38.3	37.3
87.5°	8.7	9.2	8.1	11.4	12.6	10.8	12.3	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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