

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: P837895

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-40-120-EDD**

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: P837895
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-LD4-1HI-40-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

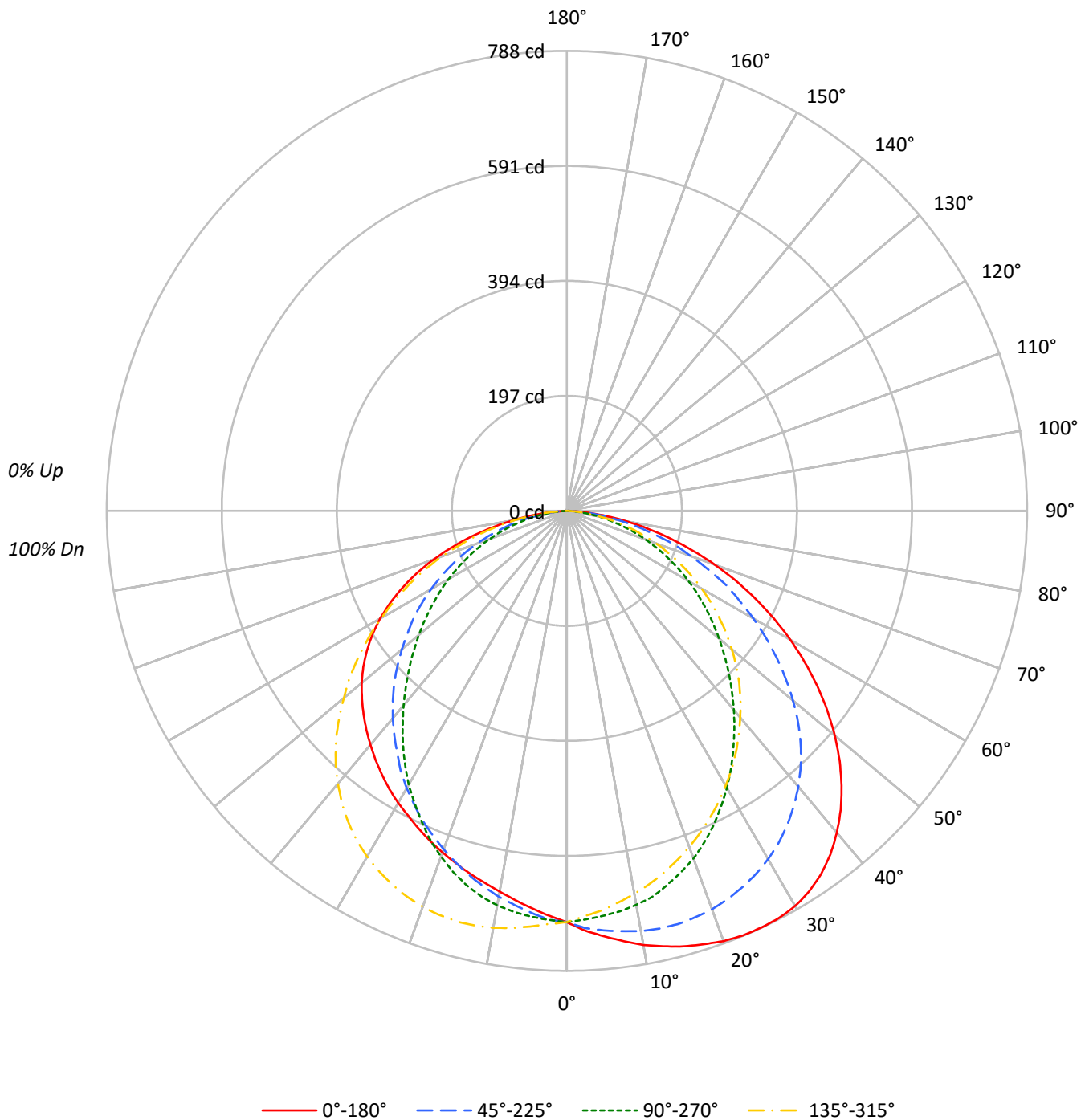
Lumens per Lamp: N/A
Luminaire Lumens: 2066.4 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 22
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	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	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1895	1895	1895	1895
5°	1975	1882	1846	1885
10°	2063	1872	1809	1875
15°	2152	1848	1791	1849
20°	2246	1815	1783	1804
25°	2339	1764	1783	1746
30°	2429	1702	1795	1684
35°	2493	1633	1813	1607
40°	2527	1563	1838	1527
45°	2531	1491	1874	1454
50°	2508	1423	1920	1385
55°	2456	1360	1962	1322
60°	2379	1294	1989	1260
65°	2273	1217	1978	1189
70°	2123	1128	1908	1108
75°	1910	1006	1751	1001
80°	1619	843	1472	855
85°	1127	559	932	574

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.9	3.2
10°-20°	193.6	9.4
20°-30°	296.8	14.4
30°-40°	360.9	17.5
40°-50°	375.1	18.2
50°-60°	338.9	16.4
60°-70°	257.6	12.5
70°-80°	143.6	7.0
80°-90°	33.1	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°	557.3	27.0
0°-40°	918.1	44.4
0°-60°	1632.1	79.0
0°-90°	2066.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2066.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	704	704	704	704	704	
5°	731	697	684	698	731	71
15°	772	663	643	664	772	219
25°	788	594	600	588	788	364
35°	759	497	552	489	759	474
45°	665	392	492	382	665	512
55°	523	290	418	282	523	467
65°	357	191	311	187	357	353
75°	184	97	168	96	184	195
85°	36	18	30	19	36	46
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°	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3
2.5°	719.9	709.4	709.6	718.8	711.7	715.2	705.3	709.1	708.0	708.8	700.7
5°	731.3	719.9	719.8	727.7	719.8	721.3	708.8	711.2	707.6	705.3	696.6
7.5°	743.3	731.9	730.8	737.7	727.3	726.2	712.4	712.4	705.8	700.1	691.9
10°	755.1	743.4	742.0	747.2	734.4	730.6	713.9	711.2	702.5	694.0	685.1
12.5°	764.0	752.1	751.0	754.3	739.8	732.9	713.9	708.8	696.0	684.0	677.1
15°	772.4	760.2	757.1	758.7	742.1	732.9	711.6	703.7	687.3	671.5	663.4
17.5°	778.3	766.6	763.5	763.3	743.3	730.1	706.6	695.8	676.1	657.0	649.0
20°	784.2	772.5	768.6	765.6	742.9	726.4	699.4	684.8	661.8	640.4	633.7
22.5°	787.1	775.2	770.9	766.4	740.8	719.5	690.5	672.0	645.7	620.2	614.6
25°	787.6	775.3	770.7	764.3	736.5	711.2	679.0	656.5	627.1	598.9	594.1
27.5°	786.3	772.9	768.2	760.5	730.1	701.2	665.4	638.9	607.4	576.2	571.1
30°	781.7	768.1	763.6	753.6	721.1	688.9	650.4	619.4	585.6	552.4	547.9
32.5°	772.5	759.2	755.6	745.6	711.2	674.6	633.0	598.4	561.4	529.7	523.1
35°	759.0	745.7	743.4	732.9	697.4	657.5	614.0	575.4	535.8	503.4	497.0
37.5°	741.5	730.3	726.8	716.5	681.2	638.1	592.1	550.4	509.6	474.8	470.9
40°	719.3	708.8	706.1	696.9	662.3	616.6	568.5	524.6	482.7	450.3	444.8
42.5°	694.0	684.1	682.7	673.1	638.9	592.8	542.8	497.8	454.6	423.4	417.8
45°	665.2	655.7	655.4	646.3	613.5	566.3	515.9	470.7	427.2	394.8	391.8
47.5°	633.5	625.0	625.0	616.6	585.1	537.2	488.1	442.5	399.6	371.0	365.7
50°	599.0	591.0	588.5	584.4	553.7	505.5	458.9	414.8	372.3	345.0	339.9
52.5°	562.2	555.3	557.0	549.4	519.7	472.5	429.3	383.8	344.9	320.0	315.0
55°	523.4	513.6	515.1	512.3	484.2	438.5	396.1	358.2	317.9	294.6	289.8
57.5°	483.2	470.4	475.6	474.0	446.4	403.7	365.7	329.1	291.1	269.6	265.0
60°	442.0	429.6	435.1	433.6	407.6	368.8	334.3	300.3	264.5	245.0	240.4
62.5°	399.6	388.2	393.2	392.0	368.2	333.2	303.1	271.9	237.7	220.2	215.9
65°	356.9	346.0	350.4	349.6	327.6	301.0	271.1	242.5	210.8	195.5	191.2
67.5°	313.1	303.1	307.2	307.2	287.0	261.6	238.9	212.8	184.3	171.2	167.3
70°	269.8	260.4	264.0	263.7	246.6	225.9	206.4	183.0	157.6	146.7	143.4
72.5°	226.1	217.9	221.1	220.8	206.5	193.2	173.8	153.6	131.4	122.7	119.8
75°	183.7	176.0	179.1	178.8	167.1	154.6	141.6	124.9	105.8	99.7	96.8
77.5°	143.3	135.4	138.0	138.0	129.5	120.4	110.1	97.1	83.6	77.1	74.9
80°	104.5	100.7	99.4	99.6	93.8	87.9	82.6	70.2	60.3	55.9	54.4
82.5°	68.7	65.6	64.2	64.6	61.3	57.7	54.4	45.7	39.1	36.5	35.7
85°	36.5	34.2	33.0	33.8	33.2	31.2	29.6	23.7	19.6	18.6	18.1
87.5°	11.5	10.0	9.2	12.2	10.4	9.2	8.9	7.1	5.4	5.4	5.3
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°	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3
2.5°	703.4	703.4	696.9	695.5	694.8	695.6	689.2	688.1	697.3	694.2	687.1
5°	697.8	697.4	688.4	686.8	686.8	685.8	678.5	676.9	686.1	683.5	675.8
7.5°	690.9	689.9	679.2	678.1	676.4	675.8	667.7	666.6	674.4	672.8	665.6
10°	682.5	681.5	668.9	668.0	666.2	664.9	657.3	656.5	664.6	662.0	656.2
12.5°	671.5	669.7	656.7	655.9	654.4	653.9	646.5	646.2	655.0	652.4	646.3
15°	657.0	655.5	641.1	641.4	641.6	641.6	635.7	635.3	644.0	642.9	636.3
17.5°	641.1	639.1	625.3	626.3	627.4	628.8	624.2	625.0	634.2	632.7	626.8
20°	623.0	621.0	607.6	610.4	612.8	615.5	612.5	614.8	623.3	622.7	618.2
22.5°	602.8	600.8	588.3	592.6	596.7	601.7	600.3	603.0	612.0	611.8	607.9
25°	578.2	578.7	567.6	572.9	579.8	586.7	587.2	591.5	601.5	600.5	596.9
27.5°	555.2	555.8	544.1	553.0	562.2	571.1	573.2	579.1	589.3	588.5	585.4
30°	531.0	531.8	520.5	532.6	543.8	554.7	559.3	567.3	577.7	577.7	574.4
32.5°	505.9	507.3	495.5	511.8	524.8	537.4	545.5	553.8	565.7	565.3	562.6
35°	480.1	481.7	470.9	491.6	504.6	520.0	530.0	541.2	551.7	551.9	549.7
37.5°	453.8	455.8	445.9	468.6	483.4	501.6	514.4	525.6	537.2	537.9	535.9
40°	427.7	429.8	421.3	443.1	461.8	482.2	497.0	510.1	523.0	523.3	522.0
42.5°	401.5	403.8	397.4	418.8	440.0	461.8	479.3	494.2	507.3	508.2	506.7
45°	376.1	378.0	373.4	396.8	417.1	441.0	461.0	477.9	491.2	492.4	491.9
47.5°	350.8	352.6	348.5	369.8	393.3	418.6	441.8	460.5	474.7	476.0	475.6
50°	326.0	327.4	323.0	345.4	368.7	395.6	419.8	441.5	457.2	458.6	458.4
52.5°	301.3	302.8	299.0	322.5	343.7	372.1	398.4	421.9	437.5	439.5	439.8
55°	277.5	278.2	275.2	297.7	318.2	348.0	378.2	401.0	416.7	418.3	419.3
57.5°	253.7	253.8	251.4	272.9	292.6	323.0	354.7	378.7	393.5	395.1	396.6
60°	230.0	229.9	227.1	247.9	266.8	296.9	329.9	353.7	368.0	369.5	371.5
62.5°	206.5	206.0	203.6	222.8	240.5	270.3	303.5	326.5	340.1	341.1	343.7
65°	183.2	182.7	180.4	198.1	214.2	242.7	275.2	297.0	309.4	310.7	310.2
67.5°	160.2	159.2	157.4	173.3	188.0	214.2	245.5	266.3	276.5	277.7	280.8
70°	137.2	136.0	131.9	148.9	161.7	185.2	214.2	232.8	241.4	242.5	242.0
72.5°	114.5	113.4	108.9	124.5	135.4	155.9	181.9	197.3	204.7	205.7	205.7
75°	92.5	91.8	89.0	100.9	109.9	126.7	148.7	161.5	167.3	168.4	168.1
77.5°	71.3	70.8	68.0	78.2	85.3	97.8	115.5	125.5	129.8	131.1	133.9
80°	51.1	50.9	46.5	56.5	59.6	70.2	83.1	90.9	93.2	95.0	96.9
82.5°	32.7	32.9	28.4	37.0	38.3	45.0	53.1	57.8	59.5	61.0	62.4
85°	15.9	16.6	14.1	19.6	19.7	23.2	26.6	28.4	29.1	30.2	31.5
87.5°	4.1	4.8	2.6	5.6	4.9	6.4	7.4	7.9	7.7	8.5	9.0
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°	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3
2.5°	689.4	694.6	692.0	700.6	703.8	698.6	707.8	708.0	701.4	709.1	713.4
5°	678.7	684.1	682.5	691.4	695.5	690.9	702.0	704.2	697.8	706.5	713.4
7.5°	667.9	674.3	672.1	681.2	686.1	682.5	694.5	697.9	693.0	702.5	711.7
10°	658.5	663.9	661.6	671.2	675.4	672.5	684.3	690.7	686.1	697.8	708.8
12.5°	649.3	653.7	651.1	659.0	663.1	659.3	673.8	679.7	676.4	688.6	702.7
15°	637.5	642.4	638.8	645.8	649.0	645.7	657.5	667.7	663.6	676.9	692.5
17.5°	628.4	631.2	626.3	631.9	633.7	629.3	641.2	651.3	648.3	662.8	680.8
20°	618.4	620.7	613.8	616.9	616.8	611.2	622.2	632.0	630.1	646.0	666.6
22.5°	607.2	608.4	600.3	601.0	600.7	591.5	601.3	611.3	610.5	626.6	649.6
25°	595.4	595.6	585.2	584.9	581.3	570.4	579.1	590.5	588.0	605.4	629.6
27.5°	583.7	582.1	569.6	566.7	560.9	547.9	555.7	565.8	564.4	581.4	608.2
30°	571.3	569.1	553.8	548.4	540.0	525.1	531.5	541.0	541.8	556.8	584.9
32.5°	559.4	554.0	537.1	529.2	518.7	501.3	504.7	514.4	515.7	530.8	559.8
35°	544.1	540.5	519.7	506.2	495.8	476.8	480.4	487.1	489.1	503.9	533.3
37.5°	529.7	523.9	501.8	485.3	472.0	452.0	453.0	459.9	461.8	476.8	505.9
40°	514.7	506.5	482.7	463.5	448.2	427.2	426.0	433.2	434.7	449.4	475.6
42.5°	498.8	488.9	462.2	441.1	423.6	402.2	399.9	406.1	407.8	422.1	447.9
45°	482.7	470.9	441.1	418.1	398.9	377.1	374.8	379.5	382.0	395.5	420.3
47.5°	465.6	451.8	419.4	393.8	373.9	352.1	349.3	354.1	356.0	369.3	392.8
50°	447.7	430.9	397.1	368.8	349.1	327.6	323.5	329.1	330.9	343.4	366.4
52.5°	428.0	409.4	373.3	343.7	324.0	303.5	298.5	303.9	306.1	318.2	339.4
55°	407.1	387.1	349.3	320.5	299.2	279.1	275.0	277.2	281.8	293.3	313.0
57.5°	383.6	363.8	324.0	294.7	274.2	255.0	251.5	253.5	257.8	269.0	286.7
60°	358.7	337.6	298.2	269.0	249.1	230.8	227.7	229.5	234.1	244.3	260.7
62.5°	334.0	310.4	271.6	242.5	224.4	207.5	206.7	206.0	210.3	220.2	234.6
65°	304.1	281.4	243.8	216.2	199.8	184.5	181.2	182.7	186.8	195.8	211.0
67.5°	272.1	251.5	215.4	189.9	175.3	161.7	158.9	159.5	163.8	171.7	184.8
70°	238.1	220.0	186.3	163.5	151.2	138.3	136.5	136.7	140.8	147.7	159.2
72.5°	202.4	186.1	156.9	137.4	127.2	118.0	116.3	114.4	118.1	124.0	133.9
75°	166.1	151.8	127.7	111.7	103.7	95.9	94.5	92.5	96.3	101.4	109.1
77.5°	129.5	118.0	99.2	86.9	80.7	74.9	73.6	71.5	75.2	79.0	85.1
80°	93.6	85.3	74.1	61.1	59.0	55.2	53.9	51.6	55.2	57.7	62.3
82.5°	60.5	54.9	48.5	39.4	39.1	36.3	35.7	33.0	36.3	37.8	41.2
85°	30.6	27.9	26.3	20.0	20.7	18.9	18.7	15.9	18.6	19.2	21.2
87.5°	8.7	9.2	8.2	4.9	6.2	5.9	5.9	4.3	5.9	5.9	6.7
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°	704.3	704.3	704.3	704.3	704.3	704.3	704.3	704.3
2.5°	705.0	707.8	708.4	708.3	710.1	719.9	716.7	719.9
5°	706.6	712.9	714.5	716.8	719.8	731.0	727.3	731.3
7.5°	707.6	717.0	720.6	725.0	729.8	742.3	739.3	743.3
10°	707.6	719.8	725.0	732.4	738.8	753.3	750.5	755.1
12.5°	704.7	720.3	727.7	738.0	746.2	761.8	760.7	764.0
15°	698.6	717.8	728.0	741.3	751.5	768.9	768.4	772.4
17.5°	690.4	713.5	725.9	742.6	755.4	775.0	776.1	778.3
20°	680.0	705.5	721.6	742.1	758.2	779.8	781.2	784.2
22.5°	666.4	695.8	715.2	740.0	758.6	781.7	784.4	787.1
25°	650.3	684.1	706.8	735.9	756.9	781.6	785.2	787.6
27.5°	631.9	669.0	696.1	729.3	752.3	778.9	783.4	786.3
30°	610.5	652.9	684.0	720.8	746.1	774.0	778.8	781.7
32.5°	588.5	635.2	669.5	709.8	737.0	766.1	770.2	772.5
35°	564.5	613.6	652.1	695.6	725.4	753.5	756.6	759.0
37.5°	538.4	590.3	632.2	679.7	708.9	735.9	738.7	741.5
40°	511.5	565.8	609.9	660.1	689.4	714.4	717.3	719.3
42.5°	484.3	538.7	586.0	637.1	666.2	690.2	692.0	694.0
45°	456.9	510.6	559.3	611.7	640.4	662.9	663.6	665.2
47.5°	429.0	481.6	529.9	582.6	611.0	631.6	632.2	633.5
50°	400.9	452.5	498.5	551.2	579.0	600.7	597.7	599.0
52.5°	373.3	421.9	468.9	517.4	544.8	564.0	564.9	562.2
55°	346.2	392.0	435.2	481.9	508.0	523.0	522.5	523.4
57.5°	318.7	361.8	401.4	444.1	469.6	483.7	486.6	483.2
60°	290.8	331.2	366.7	405.3	430.0	441.8	445.2	442.0
62.5°	263.0	300.2	332.4	366.1	388.9	403.5	403.2	399.6
65°	235.3	269.0	297.7	326.3	346.2	360.8	360.1	356.9
67.5°	209.6	237.4	263.2	286.4	303.6	313.6	317.1	313.1
70°	181.4	205.4	228.0	246.6	260.9	269.9	273.2	269.8
72.5°	153.1	173.5	189.4	207.3	218.3	225.9	229.4	226.1
75°	125.2	142.0	154.9	168.9	176.6	183.0	187.0	183.7
77.5°	98.1	111.1	121.4	131.6	140.5	142.0	145.4	143.3
80°	72.3	81.7	89.2	95.9	102.4	103.0	105.8	104.5
82.5°	48.1	54.4	56.4	63.4	67.5	66.9	69.7	68.7
85°	25.5	29.2	32.7	34.8	37.1	35.0	37.5	36.5
87.5°	8.5	9.0	7.9	11.2	12.3	10.5	12.0	11.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)