

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: P837894

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-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: P837894
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-LD4-1STD-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

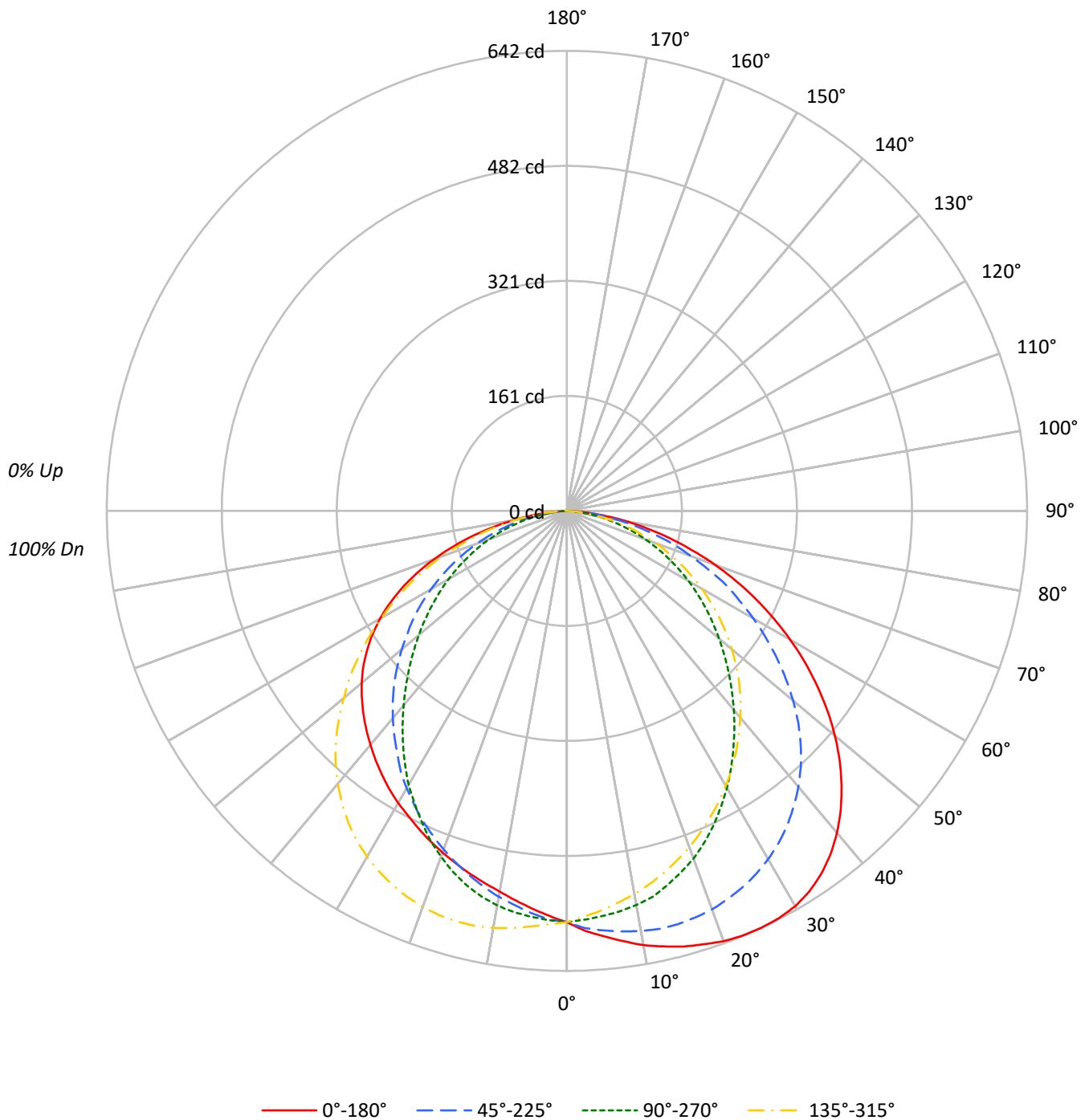
Lumens per Lamp: N/A
Luminaire Lumens: 1684.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
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°	1545	1545	1545	1545
5°	1610	1534	1505	1536
10°	1682	1526	1474	1528
15°	1753	1506	1460	1507
20°	1830	1479	1453	1470
25°	1906	1438	1453	1423
30°	1980	1387	1463	1372
35°	2032	1330	1477	1309
40°	2059	1273	1498	1245
45°	2063	1215	1527	1185
50°	2044	1160	1564	1129
55°	2001	1108	1599	1077
60°	1939	1054	1621	1027
65°	1852	992	1612	969
70°	1730	920	1555	902
75°	1556	820	1426	816
80°	1320	687	1199	697
85°	917	454	760	466

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	3.2
10°-20°	157.8	9.4
20°-30°	241.8	14.4
30°-40°	294.1	17.5
40°-50°	305.7	18.2
50°-60°	276.1	16.4
60°-70°	209.9	12.5
70°-80°	117.0	7.0
80°-90°	26.9	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°	454.2	27.0
0°-40°	748.2	44.4
0°-60°	1330.1	79.0
0°-90°	1684.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1684.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	574	574	574	574	574	
5°	596	568	557	569	596	57
15°	629	541	524	541	629	178
25°	642	484	489	479	642	296
35°	619	405	450	399	619	386
45°	542	319	401	311	542	417
55°	427	236	341	230	427	381
65°	291	156	253	152	291	287
75°	150	79	137	78	150	159
85°	30	15	25	15	30	37
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°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0
2.5°	586.7	578.1	578.3	585.8	580.0	582.8	574.8	577.9	576.9	577.6	571.0
5°	596.0	586.7	586.6	593.0	586.6	587.8	577.6	579.6	576.7	574.8	567.7
7.5°	605.7	596.5	595.6	601.2	592.7	591.8	580.6	580.6	575.2	570.5	563.8
10°	615.4	605.9	604.7	608.9	598.5	595.4	581.8	579.6	572.5	565.6	558.3
12.5°	622.6	613.0	612.0	614.7	602.9	597.3	581.8	577.6	567.2	557.4	551.8
15°	629.4	619.5	617.0	618.3	604.8	597.3	579.9	573.5	560.1	547.2	540.7
17.5°	634.2	624.7	622.2	622.1	605.7	595.0	575.9	567.0	551.0	535.4	528.9
20°	639.1	629.6	626.3	623.9	605.5	591.9	570.0	558.1	539.3	521.9	516.4
22.5°	641.5	631.7	628.2	624.6	603.7	586.3	562.7	547.6	526.2	505.4	500.9
25°	641.9	631.8	628.1	622.9	600.2	579.6	553.4	535.0	511.1	488.0	484.2
27.5°	640.8	629.8	626.1	619.8	595.0	571.4	542.3	520.7	495.0	469.6	465.4
30°	637.1	625.9	622.3	614.2	587.7	561.4	530.1	504.8	477.2	450.1	446.5
32.5°	629.6	618.7	615.8	607.6	579.6	549.8	515.9	487.6	457.5	431.7	426.3
35°	618.6	607.7	605.9	597.3	568.4	535.8	500.4	468.9	436.6	410.2	405.0
37.5°	604.3	595.1	592.3	583.9	555.1	520.0	482.5	448.5	415.3	386.9	383.7
40°	586.2	577.6	575.5	568.0	539.7	502.5	463.3	427.5	393.4	367.0	362.4
42.5°	565.6	557.5	556.3	548.6	520.7	483.1	442.4	405.7	370.5	345.0	340.5
45°	542.1	534.4	534.1	526.7	500.0	461.5	420.4	383.6	348.1	321.7	319.3
47.5°	516.3	509.3	509.3	502.5	476.8	437.8	397.8	360.6	325.6	302.3	298.0
50°	488.2	481.6	479.6	476.3	451.2	412.0	374.0	338.1	303.4	281.2	277.0
52.5°	458.2	452.6	453.9	447.7	423.5	385.1	349.9	312.8	281.0	260.8	256.7
55°	426.6	418.5	419.8	417.5	394.6	357.4	322.8	291.9	259.1	240.1	236.2
57.5°	393.8	383.3	387.6	386.3	363.8	329.0	298.0	268.2	237.3	219.7	216.0
60°	360.2	350.1	354.5	353.3	332.2	300.6	272.5	244.8	215.6	199.6	195.9
62.5°	325.6	316.4	320.4	319.5	300.1	271.5	247.0	221.6	193.7	179.4	175.9
65°	290.8	282.0	285.6	284.9	267.0	245.3	220.9	197.6	171.8	159.3	155.8
67.5°	255.2	247.0	250.4	250.4	233.9	213.2	194.7	173.4	150.2	139.5	136.3
70°	219.9	212.2	215.2	214.9	201.0	184.1	168.2	149.2	128.4	119.6	116.9
72.5°	184.2	177.5	180.2	180.0	168.3	157.5	141.7	125.2	107.1	100.0	97.6
75°	149.7	143.4	145.9	145.7	136.2	126.0	115.4	101.8	86.2	81.3	78.9
77.5°	116.8	110.3	112.5	112.5	105.5	98.1	89.7	79.1	68.2	62.8	61.1
80°	85.2	82.1	81.0	81.1	76.5	71.6	67.3	57.2	49.1	45.5	44.3
82.5°	56.0	53.4	52.4	52.6	49.9	47.0	44.3	37.2	31.9	29.7	29.1
85°	29.7	27.8	26.9	27.6	27.0	25.4	24.1	19.3	15.9	15.1	14.7
87.5°	9.4	8.2	7.5	9.9	8.4	7.5	7.2	5.8	4.4	4.4	4.3
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°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0
2.5°	573.2	573.2	568.0	566.8	566.2	566.9	561.7	560.7	568.2	565.7	559.9
5°	568.6	568.4	561.0	559.7	559.7	558.9	553.0	551.6	559.1	557.0	550.7
7.5°	563.0	562.2	553.5	552.6	551.2	550.7	544.1	543.2	549.6	548.3	542.4
10°	556.2	555.4	545.1	544.4	542.9	541.9	535.7	535.0	541.6	539.4	534.8
12.5°	547.2	545.7	535.2	534.5	533.3	532.9	526.9	526.6	533.8	531.7	526.7
15°	535.4	534.2	522.4	522.7	522.8	522.8	518.0	517.8	524.9	523.9	518.6
17.5°	522.4	520.8	509.6	510.4	511.3	512.4	508.7	509.3	516.8	515.6	510.8
20°	507.7	506.1	495.1	497.4	499.4	501.6	499.1	501.0	508.0	507.4	503.8
22.5°	491.2	489.6	479.5	482.9	486.3	490.3	489.2	491.4	498.7	498.6	495.4
25°	471.2	471.6	462.6	466.9	472.5	478.1	478.5	482.0	490.2	489.4	486.4
27.5°	452.4	453.0	443.4	450.7	458.2	465.4	467.1	472.0	480.3	479.6	477.1
30°	432.7	433.4	424.2	434.1	443.2	452.0	455.8	462.3	470.8	470.8	468.1
32.5°	412.3	413.5	403.8	417.1	427.7	438.0	444.5	451.3	461.0	460.7	458.4
35°	391.2	392.6	383.7	400.6	411.2	423.8	431.9	441.0	449.6	449.7	448.0
37.5°	369.8	371.4	363.4	381.9	393.9	408.8	419.2	428.3	437.8	438.4	436.8
40°	348.5	350.3	343.3	361.1	376.4	393.0	405.0	415.7	426.2	426.4	425.4
42.5°	327.2	329.1	323.9	341.3	358.6	376.4	390.6	402.7	413.5	414.1	412.9
45°	306.5	308.1	304.3	323.3	340.0	359.4	375.7	389.5	400.3	401.3	400.9
47.5°	285.9	287.3	284.0	301.4	320.5	341.2	360.0	375.3	386.8	387.9	387.6
50°	265.6	266.8	263.2	281.4	300.5	322.4	342.1	359.8	372.6	373.7	373.6
52.5°	245.6	246.8	243.7	262.8	280.1	303.3	324.7	343.8	356.6	358.2	358.4
55°	226.1	226.7	224.3	242.6	259.3	283.6	308.2	326.8	339.5	340.9	341.7
57.5°	206.7	206.9	204.9	222.4	238.5	263.2	289.1	308.6	320.7	322.0	323.2
60°	187.4	187.3	185.0	202.0	217.4	241.9	268.9	288.3	299.9	301.1	302.7
62.5°	168.3	167.9	165.9	181.6	196.0	220.3	247.3	266.0	277.2	278.0	280.1
65°	149.3	148.9	147.0	161.5	174.6	197.8	224.3	242.1	252.1	253.2	252.8
67.5°	130.5	129.7	128.3	141.3	153.2	174.6	200.0	217.0	225.3	226.3	228.8
70°	111.8	110.9	107.5	121.3	131.7	150.9	174.6	189.7	196.7	197.6	197.2
72.5°	93.3	92.4	88.8	101.5	110.3	127.1	148.2	160.8	166.8	167.6	167.6
75°	75.4	74.8	72.6	82.2	89.6	103.2	121.2	131.6	136.3	137.2	137.0
77.5°	58.1	57.7	55.4	63.7	69.5	79.7	94.1	102.3	105.8	106.8	109.1
80°	41.6	41.5	37.9	46.1	48.6	57.2	67.7	74.0	75.9	77.4	79.0
82.5°	26.6	26.8	23.2	30.1	31.2	36.7	43.2	47.1	48.5	49.7	50.9
85°	13.0	13.5	11.5	15.9	16.1	18.9	21.7	23.2	23.7	24.6	25.7
87.5°	3.3	3.9	2.1	4.6	4.0	5.2	6.0	6.4	6.3	7.0	7.4
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0
2.5°	561.8	566.1	564.0	570.9	573.6	569.3	576.8	576.9	571.6	577.9	581.4
5°	553.1	557.5	556.2	563.4	566.8	563.0	572.1	573.9	568.6	575.7	581.4
7.5°	544.3	549.5	547.8	555.1	559.1	556.2	566.0	568.8	564.8	572.5	580.0
10°	536.6	541.1	539.2	546.9	550.4	548.0	557.7	562.9	559.1	568.6	577.6
12.5°	529.1	532.8	530.6	537.0	540.4	537.3	549.1	553.9	551.2	561.1	572.7
15°	519.5	523.5	520.6	526.3	528.9	526.2	535.8	544.1	540.8	551.6	564.4
17.5°	512.1	514.4	510.4	514.9	516.4	512.8	522.6	530.7	528.3	540.1	554.8
20°	504.0	505.8	500.2	502.8	502.6	498.1	507.0	515.1	513.5	526.5	543.2
22.5°	494.9	495.8	489.2	489.8	489.5	482.0	490.0	498.2	497.5	510.7	529.4
25°	485.2	485.4	476.9	476.7	473.7	464.9	472.0	481.2	479.2	493.4	513.1
27.5°	475.7	474.4	464.2	461.8	457.1	446.5	452.8	461.1	459.9	473.8	495.7
30°	465.5	463.8	451.3	446.9	440.1	427.9	433.1	440.9	441.6	453.8	476.7
32.5°	455.9	451.5	437.7	431.3	422.7	408.5	411.3	419.2	420.3	432.6	456.2
35°	443.4	440.5	423.5	412.5	404.1	388.6	391.5	397.0	398.6	410.6	434.6
37.5°	431.7	427.0	408.9	395.5	384.7	368.3	369.1	374.8	376.4	388.6	412.3
40°	419.5	412.8	393.4	377.7	365.3	348.1	347.2	353.1	354.3	366.2	387.6
42.5°	406.5	398.5	376.6	359.5	345.2	327.8	325.9	331.0	332.3	344.0	365.0
45°	393.4	383.7	359.5	340.8	325.1	307.3	305.4	309.3	311.3	322.3	342.5
47.5°	379.4	368.2	341.8	320.9	304.7	286.9	284.7	288.5	290.1	301.0	320.1
50°	364.9	351.2	323.6	300.6	284.5	267.0	263.6	268.2	269.7	279.8	298.6
52.5°	348.8	333.7	304.2	280.1	264.0	247.3	243.3	247.7	249.4	259.3	276.6
55°	331.8	315.4	284.7	261.2	243.8	227.5	224.1	225.9	229.6	239.0	255.1
57.5°	312.6	296.4	264.0	240.2	223.5	207.8	205.0	206.6	210.1	219.2	233.6
60°	292.3	275.1	243.0	219.2	203.0	188.1	185.6	187.0	190.8	199.1	212.5
62.5°	272.2	252.9	221.3	197.6	182.9	169.1	168.4	167.9	171.4	179.4	191.2
65°	247.8	229.4	198.7	176.2	162.8	150.4	147.7	148.9	152.2	159.6	171.9
67.5°	221.7	205.0	175.5	154.8	142.9	131.7	129.5	130.0	133.5	139.9	150.6
70°	194.0	179.3	151.8	133.2	123.2	112.7	111.3	111.4	114.7	120.4	129.7
72.5°	165.0	151.7	127.9	111.9	103.6	96.1	94.8	93.2	96.3	101.1	109.1
75°	135.4	123.7	104.0	91.0	84.5	78.2	77.0	75.4	78.5	82.6	88.9
77.5°	105.5	96.1	80.9	70.8	65.7	61.1	60.0	58.2	61.3	64.4	69.4
80°	76.3	69.5	60.4	49.8	48.1	45.0	43.9	42.0	45.0	47.0	50.7
82.5°	49.3	44.7	39.5	32.1	31.9	29.6	29.1	26.9	29.6	30.8	33.6
85°	24.9	22.8	21.4	16.3	16.9	15.4	15.3	13.0	15.1	15.7	17.3
87.5°	7.1	7.5	6.7	4.0	5.1	4.8	4.8	3.5	4.8	4.8	5.5
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°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0
2.5°	574.5	576.8	577.3	577.2	578.7	586.7	584.0	586.7
5°	575.9	581.0	582.3	584.2	586.6	595.7	592.7	596.0
7.5°	576.7	584.3	587.2	590.9	594.7	604.9	602.5	605.7
10°	576.7	586.6	590.9	596.9	602.1	613.9	611.6	615.4
12.5°	574.3	587.0	593.0	601.4	608.1	620.9	619.9	622.6
15°	569.3	585.0	593.3	604.1	612.4	626.6	626.2	629.4
17.5°	562.6	581.5	591.5	605.2	615.6	631.6	632.5	634.2
20°	554.2	574.9	588.1	604.8	617.9	635.5	636.7	639.1
22.5°	543.1	567.0	582.8	603.0	618.2	637.1	639.2	641.5
25°	529.9	557.5	576.0	599.7	616.8	636.9	639.9	641.9
27.5°	514.9	545.2	567.3	594.3	613.1	634.8	638.4	640.8
30°	497.5	532.1	557.4	587.4	608.0	630.8	634.6	637.1
32.5°	479.6	517.6	545.6	578.4	600.6	624.3	627.7	629.6
35°	460.1	500.1	531.4	566.9	591.1	614.0	616.6	618.6
37.5°	438.8	481.1	515.2	553.9	577.7	599.7	602.0	604.3
40°	416.8	461.1	497.0	538.0	561.8	582.2	584.6	586.2
42.5°	394.7	439.0	477.6	519.2	542.9	562.5	564.0	565.6
45°	372.4	416.1	455.8	498.5	521.9	540.3	540.8	542.1
47.5°	349.6	392.4	431.8	474.8	497.9	514.7	515.2	516.3
50°	326.7	368.7	406.2	449.2	471.8	489.5	487.1	488.2
52.5°	304.2	343.8	382.1	421.6	444.0	459.7	460.3	458.2
55°	282.1	319.5	354.7	392.7	414.0	426.2	425.8	426.6
57.5°	259.7	294.8	327.1	361.9	382.7	394.2	396.6	393.8
60°	237.0	269.9	298.8	330.3	350.4	360.0	362.8	360.2
62.5°	214.4	244.6	270.9	298.3	316.9	328.8	328.6	325.6
65°	191.7	219.2	242.6	265.9	282.1	294.0	293.5	290.8
67.5°	170.8	193.5	214.5	233.4	247.4	255.6	258.4	255.2
70°	147.8	167.4	185.8	201.0	212.6	220.0	222.7	219.9
72.5°	124.8	141.4	154.4	169.0	177.9	184.1	186.9	184.2
75°	102.0	115.7	126.3	137.6	143.9	149.2	152.4	149.7
77.5°	79.9	90.5	98.9	107.2	114.5	115.7	118.5	116.8
80°	58.9	66.5	72.7	78.2	83.4	84.0	86.2	85.2
82.5°	39.2	44.3	45.9	51.7	55.0	54.5	56.8	56.0
85°	20.8	23.8	26.6	28.4	30.3	28.5	30.5	29.7
87.5°	7.0	7.4	6.4	9.1	10.0	8.6	9.8	9.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)