

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: P837985

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-35-120-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: P837985
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-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

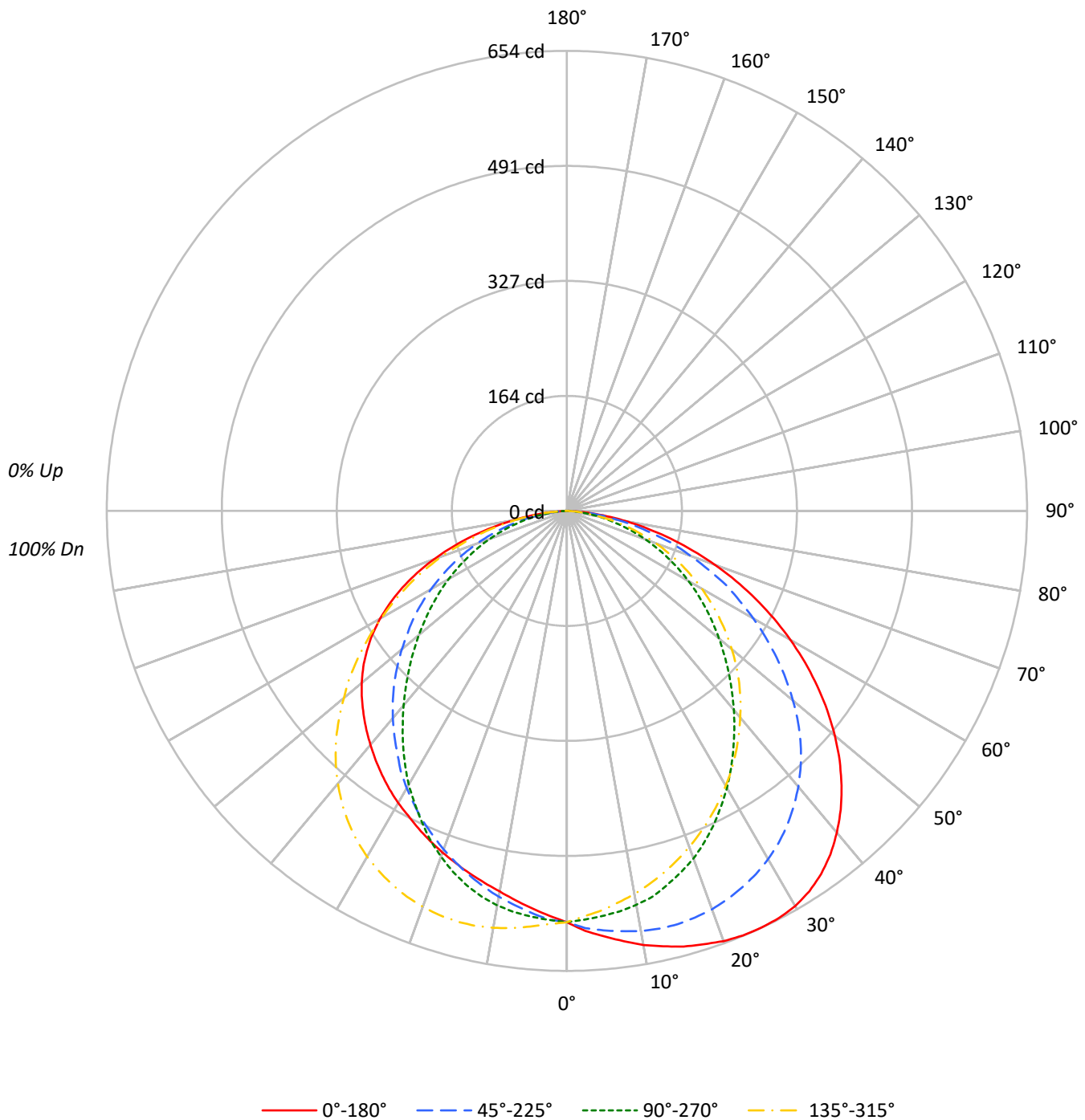
Lumens per Lamp: N/A
Luminaire Lumens: 1715.1 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1573	1573	1573	1573
5°	1640	1562	1532	1564
10°	1712	1554	1501	1556
15°	1786	1534	1487	1534
20°	1864	1506	1480	1498
25°	1941	1464	1480	1449
30°	2016	1413	1490	1397
35°	2070	1355	1505	1334
40°	2097	1297	1526	1267
45°	2101	1238	1555	1207
50°	2081	1181	1593	1150
55°	2038	1128	1629	1097
60°	1974	1074	1651	1046
65°	1886	1011	1642	987
70°	1762	936	1584	920
75°	1586	835	1454	831
80°	1344	699	1221	710
85°	936	463	775	475



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.5	3.2
10°-20°	160.7	9.4
20°-30°	246.3	14.4
30°-40°	299.5	17.5
40°-50°	311.4	18.2
50°-60°	281.2	16.4
60°-70°	213.8	12.5
70°-80°	119.2	7.0
80°-90°	27.4	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°	462.5	27.0
0°-40°	762.1	44.4
0°-60°	1354.7	79.0
0°-90°	1715.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1715.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	585	585	585	585	585	
5°	607	578	567	579	607	59
15°	641	551	534	551	641	182
25°	654	493	498	488	654	302
35°	630	412	458	406	630	393
45°	552	325	409	317	552	425
55°	434	240	347	234	434	388
65°	296	159	258	155	296	293
75°	152	80	140	80	152	162
85°	30	15	25	15	30	38
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°	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6
2.5°	597.6	588.8	589.0	596.6	590.7	593.6	585.4	588.6	587.6	588.3	581.6
5°	607.0	597.6	597.4	604.0	597.4	598.6	588.3	590.3	587.3	585.4	578.2
7.5°	616.9	607.5	606.6	612.3	603.7	602.7	591.3	591.3	585.8	581.1	574.2
10°	626.7	617.1	615.8	620.2	609.6	606.4	592.5	590.3	583.1	576.0	568.6
12.5°	634.1	624.3	623.3	626.1	614.1	608.3	592.5	588.3	577.6	567.7	562.0
15°	641.1	631.0	628.4	629.7	616.0	608.3	590.6	584.1	570.4	557.3	550.6
17.5°	646.0	636.3	633.7	633.6	616.9	606.0	586.5	577.5	561.1	545.3	538.6
20°	650.9	641.2	637.9	635.5	616.6	602.9	580.5	568.4	549.3	531.6	526.0
22.5°	653.3	643.4	639.8	636.1	614.9	597.1	573.1	557.7	535.9	514.8	510.1
25°	653.7	643.5	639.7	634.4	611.3	590.3	563.6	544.9	520.5	497.1	493.1
27.5°	652.6	641.5	637.6	631.2	606.0	582.0	552.3	530.3	504.1	478.2	474.0
30°	648.8	637.5	633.8	625.5	598.5	571.8	539.9	514.1	486.0	458.5	454.8
32.5°	641.2	630.1	627.1	618.8	590.3	559.9	525.4	496.6	466.0	439.6	434.2
35°	630.0	619.0	617.1	608.3	578.9	545.7	509.6	477.6	444.7	417.8	412.5
37.5°	615.4	606.1	603.3	594.7	565.4	529.6	491.5	456.8	423.0	394.1	390.8
40°	597.0	588.3	586.1	578.5	549.7	511.8	471.8	435.4	400.6	373.8	369.1
42.5°	576.0	567.8	566.6	558.7	530.3	492.0	450.6	413.2	377.3	351.4	346.8
45°	552.1	544.2	544.0	536.5	509.2	470.1	428.2	390.7	354.6	327.7	325.2
47.5°	525.8	518.7	518.7	511.8	485.6	445.9	405.1	367.2	331.6	307.9	303.6
50°	497.2	490.5	488.5	485.1	459.6	419.6	380.9	344.3	309.0	286.4	282.1
52.5°	466.6	460.9	462.3	456.0	431.3	392.2	356.3	318.6	286.2	265.6	261.4
55°	434.5	426.3	427.5	425.2	401.9	364.0	328.8	297.3	263.9	244.5	240.5
57.5°	401.1	390.4	394.8	393.4	370.5	335.1	303.6	273.1	241.6	223.8	220.0
60°	366.8	356.6	361.1	359.9	338.3	306.1	277.5	249.3	219.5	203.3	199.5
62.5°	331.6	322.2	326.3	325.4	305.6	276.6	251.6	225.7	197.3	182.7	179.2
65°	296.2	287.2	290.9	290.2	271.9	249.8	225.0	201.3	175.0	162.3	158.7
67.5°	259.9	251.6	255.0	255.0	238.2	217.1	198.3	176.6	153.0	142.1	138.8
70°	223.9	216.1	219.1	218.9	204.7	187.5	171.3	151.9	130.8	121.8	119.0
72.5°	187.6	180.8	183.5	183.3	171.4	160.4	144.3	127.5	109.1	101.9	99.4
75°	152.5	146.0	148.6	148.4	138.7	128.3	117.5	103.6	87.8	82.8	80.3
77.5°	118.9	112.4	114.5	114.5	107.5	100.0	91.4	80.6	69.4	64.0	62.2
80°	86.7	83.6	82.5	82.6	77.9	73.0	68.6	58.2	50.0	46.4	45.1
82.5°	57.0	54.4	53.3	53.6	50.9	47.9	45.1	37.9	32.5	30.3	29.6
85°	30.3	28.4	27.4	28.1	27.5	25.9	24.5	19.6	16.2	15.4	15.0
87.5°	9.5	8.3	7.6	10.1	8.6	7.6	7.4	5.9	4.5	4.5	4.4
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°	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6
2.5°	583.8	583.8	578.5	577.2	576.7	577.4	572.1	571.1	578.7	576.1	570.3
5°	579.1	578.9	571.4	570.0	570.0	569.2	563.2	561.8	569.5	567.3	560.9
7.5°	573.4	572.6	563.7	562.8	561.4	560.9	554.2	553.2	559.8	558.4	552.4
10°	566.5	565.6	555.1	554.5	553.0	551.9	545.6	544.9	551.6	549.4	544.6
12.5°	557.3	555.8	545.1	544.4	543.1	542.7	536.6	536.3	543.7	541.5	536.5
15°	545.3	544.1	532.1	532.4	532.5	532.5	527.6	527.3	534.6	533.6	528.1
17.5°	532.1	530.5	519.0	519.8	520.8	521.9	518.1	518.7	526.4	525.1	520.2
20°	517.1	515.5	504.3	506.6	508.6	510.8	508.4	510.3	517.4	516.8	513.1
22.5°	500.3	498.7	488.3	491.9	495.3	499.4	498.3	500.5	508.0	507.8	504.6
25°	479.9	480.3	471.1	475.5	481.2	487.0	487.4	490.9	499.2	498.4	495.4
27.5°	460.8	461.3	451.6	459.0	466.6	474.0	475.8	480.7	489.1	488.5	485.9
30°	440.7	441.4	432.0	442.1	451.4	460.4	464.2	470.9	479.5	479.5	476.7
32.5°	419.9	421.1	411.3	424.8	435.6	446.1	452.7	459.7	469.5	469.2	466.9
35°	398.5	399.8	390.8	408.0	418.8	431.6	439.9	449.2	457.9	458.1	456.3
37.5°	376.6	378.3	370.1	388.9	401.2	416.3	427.0	436.2	445.9	446.5	444.8
40°	355.0	356.7	349.6	367.8	383.3	400.2	412.5	423.4	434.1	434.3	433.2
42.5°	333.3	335.2	329.9	347.6	365.2	383.3	397.8	410.2	421.1	421.8	420.6
45°	312.1	313.8	310.0	329.3	346.2	366.0	382.6	396.7	407.7	408.7	408.3
47.5°	291.1	292.6	289.2	307.0	326.5	347.5	366.7	382.2	394.0	395.1	394.8
50°	270.6	271.8	268.1	286.6	306.0	328.4	348.4	366.4	379.5	380.6	380.5
52.5°	250.1	251.3	248.2	267.7	285.3	308.9	330.7	350.2	363.1	364.8	365.1
55°	230.3	230.9	228.4	247.1	264.1	288.8	313.9	332.9	345.8	347.2	348.0
57.5°	210.5	210.7	208.6	226.5	242.9	268.1	294.4	314.3	326.6	328.0	329.2
60°	190.9	190.8	188.5	205.8	221.5	246.4	273.8	293.6	305.5	306.7	308.3
62.5°	171.4	171.0	169.0	184.9	199.6	224.3	251.9	271.0	282.3	283.1	285.3
65°	152.0	151.6	149.7	164.5	177.8	201.4	228.4	246.5	256.8	257.9	257.5
67.5°	133.0	132.1	130.6	143.9	156.0	177.8	203.7	221.0	229.5	230.5	233.0
70°	113.9	112.9	109.5	123.5	134.2	153.7	177.8	193.2	200.3	201.3	200.9
72.5°	95.0	94.1	90.4	103.4	112.4	129.4	151.0	163.8	169.9	170.7	170.7
75°	76.8	76.2	73.9	83.7	91.2	105.1	123.4	134.0	138.8	139.8	139.5
77.5°	59.2	58.8	56.5	64.9	70.8	81.1	95.9	104.2	107.7	108.8	111.1
80°	42.4	42.3	38.6	46.9	49.5	58.2	69.0	75.4	77.3	78.8	80.5
82.5°	27.1	27.3	23.6	30.7	31.8	37.4	44.0	48.0	49.4	50.6	51.8
85°	13.2	13.8	11.7	16.2	16.4	19.2	22.1	23.6	24.1	25.1	26.2
87.5°	3.4	4.0	2.2	4.6	4.1	5.3	6.1	6.5	6.4	7.1	7.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6
2.5°	572.2	576.6	574.4	581.5	584.2	579.8	587.5	587.6	582.1	588.6	592.1
5°	563.3	567.8	566.5	573.8	577.2	573.4	582.7	584.5	579.1	586.4	592.1
7.5°	554.3	559.6	557.9	565.4	569.5	566.5	576.4	579.3	575.2	583.1	590.7
10°	546.6	551.1	549.1	557.1	560.6	558.1	568.0	573.3	569.5	579.1	588.3
12.5°	538.9	542.6	540.4	547.0	550.4	547.2	559.2	564.1	561.4	571.5	583.2
15°	529.1	533.2	530.2	536.1	538.6	535.9	545.7	554.2	550.8	561.8	574.8
17.5°	521.6	523.9	519.8	524.5	526.0	522.3	532.2	540.6	538.1	550.1	565.1
20°	513.3	515.2	509.5	512.1	511.9	507.3	516.4	524.6	523.0	536.2	553.2
22.5°	504.0	505.0	498.3	498.8	498.6	490.9	499.1	507.4	506.7	520.1	539.2
25°	494.2	494.3	485.7	485.5	482.5	473.5	480.7	490.1	488.1	502.5	522.6
27.5°	484.5	483.1	472.8	470.3	465.6	454.8	461.2	469.6	468.4	482.6	504.8
30°	474.1	472.4	459.7	455.2	448.2	435.8	441.1	449.1	449.7	462.1	485.5
32.5°	464.3	459.8	445.8	439.2	430.5	416.1	418.9	427.0	428.1	440.6	464.6
35°	451.6	448.6	431.3	420.1	411.6	395.7	398.7	404.3	406.0	418.2	442.6
37.5°	439.6	434.9	416.5	402.8	391.8	375.1	376.0	381.7	383.3	395.7	419.9
40°	427.2	420.4	400.6	384.7	372.0	354.6	353.6	359.6	360.8	373.0	394.8
42.5°	414.0	405.8	383.6	366.1	351.6	333.8	331.9	337.1	338.5	350.3	371.7
45°	400.6	390.8	366.1	347.1	331.1	313.0	311.1	315.0	317.1	328.2	348.8
47.5°	386.5	375.0	348.1	326.9	310.4	292.2	289.9	293.9	295.5	306.6	326.1
50°	371.6	357.7	329.6	306.1	289.8	271.9	268.5	273.1	274.6	285.0	304.1
52.5°	355.2	339.8	309.8	285.3	268.9	251.9	247.8	252.3	254.0	264.1	281.7
55°	337.9	321.3	289.9	266.1	248.3	231.7	228.3	230.0	233.9	243.4	259.8
57.5°	318.4	301.9	268.9	244.6	227.6	211.6	208.8	210.4	214.0	223.2	238.0
60°	297.7	280.2	247.5	223.2	206.7	191.6	189.0	190.5	194.3	202.8	216.4
62.5°	277.2	257.6	225.4	201.3	186.3	172.2	171.5	171.0	174.5	182.7	194.7
65°	252.4	233.6	202.4	179.5	165.8	153.1	150.4	151.6	155.0	162.5	175.1
67.5°	225.8	208.8	178.8	157.6	145.5	134.2	131.9	132.4	136.0	142.5	153.4
70°	197.6	182.6	154.6	135.7	125.5	114.8	113.3	113.5	116.9	122.6	132.1
72.5°	168.0	154.5	130.2	114.0	105.5	97.9	96.5	94.9	98.0	103.0	111.1
75°	137.9	126.0	106.0	92.7	86.0	79.6	78.4	76.8	79.9	84.1	90.5
77.5°	107.5	97.9	82.4	72.1	67.0	62.2	61.1	59.3	62.5	65.6	70.6
80°	77.7	70.8	61.5	50.7	49.0	45.8	44.7	42.8	45.8	47.9	51.7
82.5°	50.2	45.5	40.2	32.7	32.5	30.1	29.6	27.4	30.1	31.4	34.2
85°	25.4	23.2	21.8	16.6	17.2	15.7	15.5	13.2	15.4	16.0	17.6
87.5°	7.2	7.6	6.8	4.1	5.2	4.9	4.9	3.5	4.9	4.9	5.6
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°	584.6	584.6	584.6	584.6	584.6	584.6	584.6	584.6
2.5°	585.1	587.5	588.0	587.9	589.4	597.6	594.8	597.6
5°	586.5	591.7	593.1	595.0	597.4	606.7	603.7	607.0
7.5°	587.3	595.1	598.1	601.8	605.7	616.1	613.6	616.9
10°	587.3	597.4	601.8	607.9	613.2	625.2	622.9	626.7
12.5°	584.9	597.8	604.0	612.6	619.4	632.3	631.4	634.1
15°	579.8	595.8	604.2	615.3	623.7	638.2	637.8	641.1
17.5°	573.0	592.2	602.5	616.4	627.0	643.2	644.2	646.0
20°	564.4	585.6	598.9	616.0	629.3	647.2	648.4	650.9
22.5°	553.1	577.5	593.6	614.2	629.6	648.8	651.0	653.3
25°	539.7	567.8	586.6	610.8	628.2	648.7	651.7	653.7
27.5°	524.5	555.3	577.8	605.3	624.4	646.5	650.2	652.6
30°	506.7	541.9	567.7	598.2	619.2	642.4	646.4	648.8
32.5°	488.5	527.2	555.7	589.1	611.7	635.9	639.3	641.2
35°	468.6	509.3	541.2	577.4	602.1	625.4	628.0	630.0
37.5°	446.9	490.0	524.7	564.1	588.4	610.8	613.1	615.4
40°	424.5	469.6	506.2	547.9	572.2	592.9	595.4	597.0
42.5°	402.0	447.1	486.4	528.8	553.0	572.9	574.4	576.0
45°	379.2	423.8	464.2	507.7	531.6	550.2	550.8	552.1
47.5°	356.1	399.7	439.8	483.6	507.1	524.2	524.7	525.8
50°	332.7	375.6	413.7	457.5	480.6	498.6	496.1	497.2
52.5°	309.8	350.2	389.2	429.4	452.2	468.1	468.8	466.6
55°	287.3	325.4	361.2	400.0	421.6	434.1	433.6	434.5
57.5°	264.6	300.3	333.1	368.6	389.7	401.5	403.9	401.1
60°	241.4	274.9	304.4	336.4	356.9	366.7	369.6	366.8
62.5°	218.3	249.1	275.9	303.8	322.8	334.9	334.6	331.6
65°	195.3	223.2	247.1	270.8	287.3	299.5	298.9	296.2
67.5°	174.0	197.0	218.5	237.7	252.0	260.3	263.2	259.9
70°	150.5	170.5	189.3	204.7	216.5	224.0	226.8	223.9
72.5°	127.1	144.0	157.2	172.1	181.2	187.5	190.4	187.6
75°	103.9	117.8	128.6	140.2	146.6	151.9	155.2	152.5
77.5°	81.4	92.2	100.8	109.2	116.6	117.8	120.7	118.9
80°	60.0	67.8	74.0	79.6	85.0	85.5	87.8	86.7
82.5°	40.0	45.1	46.8	52.6	56.0	55.5	57.8	57.0
85°	21.1	24.3	27.1	28.9	30.8	29.0	31.1	30.3
87.5°	7.1	7.5	6.5	9.3	10.2	8.7	10.0	9.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)