

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: P837984

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-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: P837984
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-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

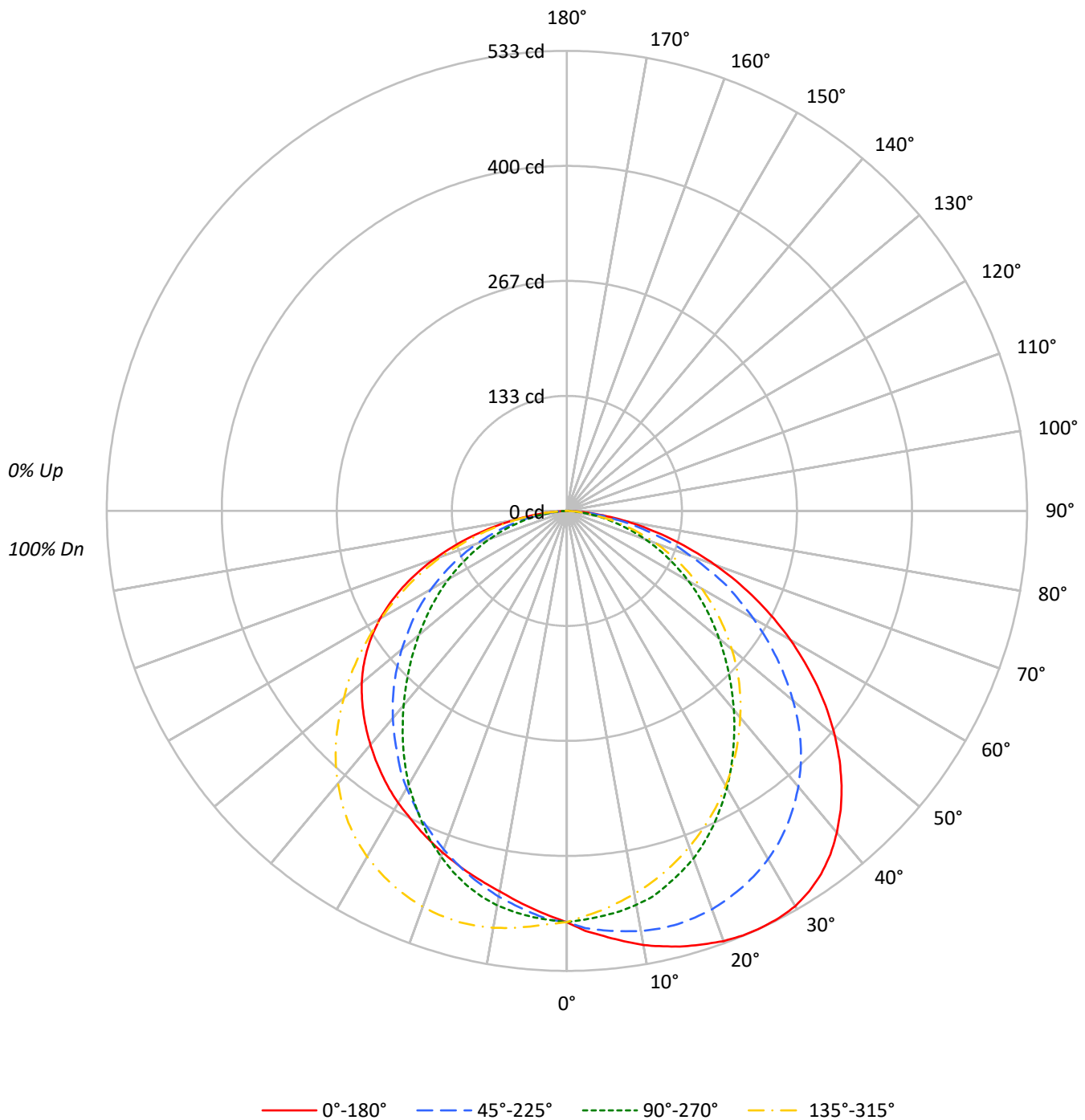
Lumens per Lamp: N/A
Luminaire Lumens: 1397.7 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1282	1282	1282	1282
5°	1336	1273	1249	1275
10°	1396	1266	1223	1268
15°	1455	1250	1212	1251
20°	1519	1227	1206	1221
25°	1582	1193	1206	1181
30°	1643	1152	1214	1139
35°	1687	1104	1226	1087
40°	1709	1057	1243	1033
45°	1713	1008	1268	983
50°	1696	962	1299	937
55°	1661	920	1327	894
60°	1609	875	1345	853
65°	1537	824	1338	805
70°	1436	763	1290	749
75°	1291	681	1184	677
80°	1096	570	995	578
85°	763	377	630	389

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.2	3.2
10°-20°	131.0	9.4
20°-30°	200.7	14.4
30°-40°	244.1	17.5
40°-50°	253.7	18.2
50°-60°	229.2	16.4
60°-70°	174.2	12.5
70°-80°	97.1	7.0
80°-90°	22.4	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°	377.0	27.0
0°-40°	621.0	44.4
0°-60°	1104.0	79.0
0°-90°	1397.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1397.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	476	476	476	476	476	
5°	495	471	462	472	495	48
15°	522	449	435	449	522	148
25°	533	402	406	398	533	246
35°	513	336	373	331	513	321
45°	450	265	333	258	450	346
55°	354	196	283	191	354	316
65°	241	129	210	126	241	239
75°	124	66	114	65	124	132
85°	25	12	20	13	25	31
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°	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4
2.5°	487.0	479.9	480.0	486.2	481.4	483.7	477.1	479.6	478.9	479.4	474.0
5°	494.6	487.0	486.9	492.2	486.9	487.9	479.4	481.1	478.6	477.1	471.2
7.5°	502.8	495.1	494.3	499.0	492.0	491.2	481.9	481.9	477.4	473.5	468.0
10°	510.8	502.9	501.9	505.4	496.8	494.2	482.9	481.1	475.2	469.4	463.4
12.5°	516.8	508.8	508.0	510.2	500.4	495.8	482.9	479.4	470.7	462.6	458.0
15°	522.4	514.2	512.1	513.2	502.0	495.8	481.3	476.0	464.9	454.2	448.7
17.5°	526.4	518.5	516.4	516.3	502.8	493.9	478.0	470.6	457.3	444.4	439.0
20°	530.4	522.5	519.9	517.9	502.5	491.3	473.1	463.2	447.6	433.2	428.6
22.5°	532.4	524.3	521.4	518.4	501.1	486.6	467.1	454.5	436.7	419.5	415.7
25°	532.8	524.4	521.3	517.0	498.2	481.1	459.3	444.1	424.2	405.1	401.8
27.5°	531.9	522.8	519.6	514.4	493.9	474.3	450.1	432.2	410.8	389.7	386.3
30°	528.8	519.5	516.5	509.8	487.8	466.0	440.0	419.0	396.1	373.6	370.6
32.5°	522.5	513.5	511.1	504.3	481.1	456.3	428.2	404.7	379.7	358.3	353.8
35°	513.4	504.4	502.9	495.8	471.7	444.7	415.3	389.2	362.4	340.5	336.2
37.5°	501.5	494.0	491.6	484.6	460.7	431.6	400.5	372.3	344.7	321.2	318.5
40°	486.5	479.4	477.6	471.4	448.0	417.1	384.5	354.8	326.5	304.6	300.8
42.5°	469.4	462.7	461.7	455.3	432.2	401.0	367.2	336.7	307.5	286.4	282.6
45°	450.0	443.5	443.3	437.2	415.0	383.1	348.9	318.4	288.9	267.0	265.0
47.5°	428.5	422.7	422.7	417.1	395.7	363.4	330.2	299.3	270.3	250.9	247.4
50°	405.2	399.7	398.1	395.3	374.5	341.9	310.4	280.6	251.8	233.4	229.9
52.5°	380.3	375.6	376.7	371.6	351.5	319.6	290.4	259.6	233.3	216.5	213.0
55°	354.1	347.4	348.4	346.5	327.5	296.6	267.9	242.3	215.0	199.3	196.0
57.5°	326.8	318.2	321.7	320.6	301.9	273.0	247.4	222.6	196.9	182.4	179.3
60°	298.9	290.6	294.3	293.3	275.7	249.5	226.1	203.1	178.9	165.7	162.6
62.5°	270.3	262.6	265.9	265.2	249.0	225.4	205.0	183.9	160.8	148.9	146.0
65°	241.4	234.0	237.0	236.5	221.6	203.6	183.4	164.0	142.6	132.2	129.4
67.5°	211.8	205.0	207.8	207.8	194.1	176.9	161.6	143.9	124.7	115.8	113.1
70°	182.5	176.1	178.6	178.4	166.8	152.8	139.6	123.8	106.6	99.2	97.0
72.5°	152.9	147.4	149.6	149.4	139.7	130.7	117.6	103.9	88.9	83.0	81.0
75°	124.2	119.0	121.1	120.9	113.0	104.6	95.8	84.5	71.6	67.5	65.5
77.5°	96.9	91.6	93.3	93.3	87.6	81.5	74.5	65.7	56.6	52.1	50.7
80°	70.7	68.1	67.2	67.3	63.5	59.5	55.9	47.5	40.8	37.8	36.8
82.5°	46.5	44.3	43.5	43.7	41.5	39.0	36.8	30.9	26.4	24.7	24.1
85°	24.7	23.1	22.3	22.9	22.4	21.1	20.0	16.0	13.2	12.6	12.2
87.5°	7.8	6.8	6.2	8.2	7.0	6.2	6.0	4.8	3.7	3.7	3.6
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4
2.5°	475.7	475.7	471.4	470.4	470.0	470.5	466.2	465.4	471.6	469.5	464.7
5°	472.0	471.7	465.6	464.5	464.5	463.9	459.0	457.9	464.1	462.3	457.1
7.5°	467.3	466.6	459.4	458.6	457.5	457.1	451.6	450.9	456.2	455.1	450.2
10°	461.6	461.0	452.4	451.9	450.6	449.7	444.6	444.1	449.5	447.7	443.9
12.5°	454.2	453.0	444.2	443.6	442.6	442.3	437.3	437.1	443.1	441.3	437.2
15°	444.4	443.4	433.6	433.9	434.0	434.0	430.0	429.7	435.6	434.9	430.4
17.5°	433.6	432.3	423.0	423.6	424.4	425.3	422.2	422.7	429.0	428.0	424.0
20°	421.4	420.1	411.0	412.8	414.5	416.3	414.3	415.8	421.6	421.2	418.2
22.5°	407.7	406.4	398.0	400.8	403.6	407.0	406.1	407.8	414.0	413.8	411.2
25°	391.1	391.4	384.0	387.5	392.2	396.8	397.2	400.1	406.8	406.2	403.7
27.5°	375.5	376.0	368.1	374.1	380.3	386.3	387.7	391.7	398.6	398.1	396.0
30°	359.2	359.7	352.1	360.3	367.8	375.2	378.3	383.7	390.7	390.7	388.5
32.5°	342.2	343.2	335.2	346.2	354.9	363.5	369.0	374.6	382.6	382.4	380.5
35°	324.7	325.8	318.5	332.5	341.3	351.7	358.5	366.1	373.2	373.3	371.8
37.5°	306.9	308.3	301.6	316.9	326.9	339.3	347.9	355.5	363.4	363.8	362.5
40°	289.3	290.7	284.9	299.7	312.4	326.2	336.2	345.1	353.7	353.9	353.1
42.5°	271.6	273.2	268.8	283.3	297.6	312.4	324.2	334.3	343.2	343.7	342.7
45°	254.4	255.7	252.6	268.4	282.2	298.3	311.8	323.3	332.3	333.1	332.7
47.5°	237.3	238.5	235.7	250.2	266.0	283.2	298.8	311.5	321.1	321.9	321.7
50°	220.5	221.5	218.5	233.6	249.4	267.6	283.9	298.6	309.3	310.2	310.1
52.5°	203.8	204.8	202.3	218.1	232.5	251.7	269.5	285.4	295.9	297.3	297.5
55°	187.7	188.1	186.1	201.4	215.3	235.4	255.8	271.3	281.8	282.9	283.6
57.5°	171.6	171.7	170.0	184.6	197.9	218.5	239.9	256.2	266.2	267.3	268.3
60°	155.6	155.5	153.6	167.7	180.5	200.8	223.1	239.3	248.9	249.9	251.3
62.5°	139.7	139.4	137.7	150.7	162.7	182.8	205.3	220.8	230.0	230.7	232.5
65°	123.9	123.6	122.0	134.0	144.9	164.1	186.1	200.9	209.3	210.1	209.8
67.5°	108.4	107.7	106.5	117.2	127.1	144.9	166.0	180.1	187.0	187.8	189.9
70°	92.8	92.0	89.2	100.7	109.4	125.2	144.9	157.5	163.3	164.0	163.7
72.5°	77.5	76.7	73.7	84.2	91.6	105.5	123.0	133.5	138.5	139.1	139.1
75°	62.6	62.1	60.2	68.2	74.3	85.7	100.6	109.2	113.1	113.9	113.7
77.5°	48.2	47.9	46.0	52.9	57.7	66.1	78.1	84.9	87.8	88.7	90.6
80°	34.6	34.5	31.4	38.2	40.3	47.5	56.2	61.5	63.0	64.2	65.6
82.5°	22.1	22.2	19.2	25.0	25.9	30.4	35.9	39.1	40.2	41.2	42.2
85°	10.8	11.2	9.6	13.2	13.3	15.7	18.0	19.2	19.7	20.4	21.3
87.5°	2.8	3.2	1.8	3.8	3.3	4.3	5.0	5.3	5.2	5.8	6.1
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°	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4
2.5°	466.3	469.9	468.1	473.9	476.1	472.5	478.7	478.9	474.4	479.6	482.5
5°	459.1	462.7	461.6	467.6	470.4	467.3	474.9	476.3	472.0	477.9	482.5
7.5°	451.7	456.1	454.6	460.7	464.1	461.6	469.7	472.1	468.7	475.2	481.4
10°	445.4	449.1	447.5	454.0	456.9	454.9	462.9	467.2	464.1	472.0	479.4
12.5°	439.2	442.2	440.4	445.7	448.5	446.0	455.7	459.7	457.5	465.7	475.3
15°	431.2	434.5	432.1	436.9	439.0	436.7	444.7	451.6	448.9	457.9	468.4
17.5°	425.1	427.0	423.6	427.4	428.6	425.6	433.7	440.5	438.5	448.3	460.5
20°	418.3	419.8	415.2	417.3	417.2	413.4	420.8	427.5	426.2	437.0	450.9
22.5°	410.7	411.5	406.1	406.5	406.3	400.1	406.7	413.5	413.0	423.9	439.4
25°	402.7	402.8	395.8	395.6	393.2	385.8	391.7	399.4	397.7	409.5	425.9
27.5°	394.8	393.7	385.3	383.3	379.4	370.6	375.8	382.7	381.7	393.3	411.4
30°	386.4	385.0	374.6	371.0	365.3	355.2	359.5	366.0	366.5	376.6	395.6
32.5°	378.4	374.7	363.3	358.0	350.8	339.1	341.4	347.9	348.8	359.1	378.6
35°	368.1	365.6	351.5	342.4	335.4	322.5	324.9	329.5	330.8	340.8	360.7
37.5°	358.3	354.4	339.4	328.3	319.3	305.7	306.4	311.1	312.4	322.5	342.2
40°	348.2	342.6	326.5	313.5	303.2	288.9	288.2	293.1	294.1	303.9	321.7
42.5°	337.4	330.7	312.6	298.4	286.5	272.0	270.5	274.7	275.8	285.5	302.9
45°	326.5	318.5	298.4	282.8	269.8	255.0	253.5	256.7	258.4	267.5	284.3
47.5°	314.9	305.6	283.7	266.4	252.9	238.2	236.3	239.5	240.8	249.8	265.7
50°	302.8	291.5	268.6	249.5	236.2	221.6	218.8	222.6	223.8	232.3	247.8
52.5°	289.5	276.9	252.5	232.5	219.1	205.3	201.9	205.6	207.0	215.3	229.6
55°	275.4	261.8	236.3	216.8	202.4	188.8	186.0	187.5	190.6	198.4	211.7
57.5°	259.5	246.0	219.1	199.4	185.5	172.5	170.1	171.5	174.4	181.9	193.9
60°	242.6	228.4	201.7	181.9	168.5	156.1	154.0	155.2	158.4	165.3	176.4
62.5°	225.9	209.9	183.7	164.0	151.8	140.4	139.8	139.4	142.2	148.9	158.7
65°	205.7	190.4	164.9	146.2	135.1	124.8	122.6	123.6	126.4	132.5	142.7
67.5°	184.0	170.1	145.7	128.5	118.6	109.4	107.5	107.9	110.8	116.1	125.0
70°	161.0	148.8	126.0	110.6	102.2	93.6	92.3	92.5	95.2	99.9	107.7
72.5°	136.9	125.9	106.1	92.9	86.0	79.8	78.7	77.3	79.9	83.9	90.6
75°	112.4	102.7	86.3	75.6	70.1	64.9	63.9	62.6	65.1	68.6	73.8
77.5°	87.6	79.8	67.1	58.8	54.6	50.7	49.8	48.3	50.9	53.5	57.6
80°	63.3	57.7	50.1	41.3	39.9	37.3	36.5	34.9	37.3	39.0	42.1
82.5°	40.9	37.1	32.8	26.7	26.4	24.6	24.1	22.3	24.6	25.6	27.9
85°	20.7	18.9	17.8	13.6	14.0	12.8	12.7	10.8	12.6	13.0	14.3
87.5°	5.9	6.2	5.6	3.3	4.2	4.0	4.0	2.9	4.0	4.0	4.6
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°	476.4	476.4	476.4	476.4	476.4	476.4	476.4	476.4
2.5°	476.9	478.7	479.2	479.1	480.3	487.0	484.7	487.0
5°	478.0	482.2	483.3	484.9	486.9	494.4	492.0	494.6
7.5°	478.6	485.0	487.4	490.4	493.6	502.1	500.1	502.8
10°	478.6	486.9	490.4	495.4	499.8	509.5	507.6	510.8
12.5°	476.6	487.2	492.2	499.2	504.8	515.3	514.5	516.8
15°	472.5	485.5	492.4	501.4	508.3	520.1	519.8	522.4
17.5°	467.0	482.6	491.0	502.3	511.0	524.2	525.0	526.4
20°	460.0	477.2	488.1	502.0	512.9	527.4	528.4	530.4
22.5°	450.7	470.6	483.7	500.5	513.1	528.8	530.5	532.4
25°	439.9	462.7	478.1	497.8	512.0	528.6	531.1	532.8
27.5°	427.4	452.5	470.9	493.3	508.9	526.9	529.9	531.9
30°	413.0	441.6	462.6	487.5	504.6	523.5	526.8	528.8
32.5°	398.1	429.6	452.9	480.1	498.5	518.2	521.0	522.5
35°	381.8	415.1	441.1	470.5	490.6	509.6	511.8	513.4
37.5°	364.2	399.3	427.6	459.7	479.5	497.8	499.6	501.5
40°	345.9	382.7	412.5	446.5	466.3	483.2	485.2	486.5
42.5°	327.6	364.4	396.4	431.0	450.6	466.9	468.1	469.4
45°	309.1	345.4	378.3	413.7	433.2	448.4	448.9	450.0
47.5°	290.2	325.7	358.4	394.1	413.3	427.2	427.6	428.5
50°	271.2	306.1	337.2	372.8	391.6	406.3	404.3	405.2
52.5°	252.5	285.4	317.2	349.9	368.5	381.5	382.1	380.3
55°	234.2	265.2	294.4	325.9	343.6	353.7	353.4	354.1
57.5°	215.6	244.7	271.5	300.4	317.6	327.2	329.2	326.8
60°	196.7	224.0	248.0	274.2	290.8	298.8	301.2	298.9
62.5°	177.9	203.0	224.8	247.6	263.0	272.9	272.7	270.3
65°	159.1	181.9	201.4	220.7	234.2	244.0	243.6	241.4
67.5°	141.8	160.6	178.0	193.7	205.4	212.1	214.5	211.8
70°	122.7	138.9	154.2	166.8	176.5	182.6	184.8	182.5
72.5°	103.6	117.4	128.1	140.2	147.7	152.8	155.1	152.9
75°	84.7	96.0	104.8	114.2	119.5	123.8	126.5	124.2
77.5°	66.3	75.1	82.1	89.0	95.0	96.0	98.4	96.9
80°	48.9	55.2	60.3	64.9	69.2	69.7	71.6	70.7
82.5°	32.6	36.8	38.1	42.9	45.7	45.2	47.1	46.5
85°	17.2	19.8	22.1	23.6	25.1	23.7	25.3	24.7
87.5°	5.8	6.1	5.3	7.6	8.3	7.1	8.1	7.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)