

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: P838020

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-50-120-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: P838020
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-50-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

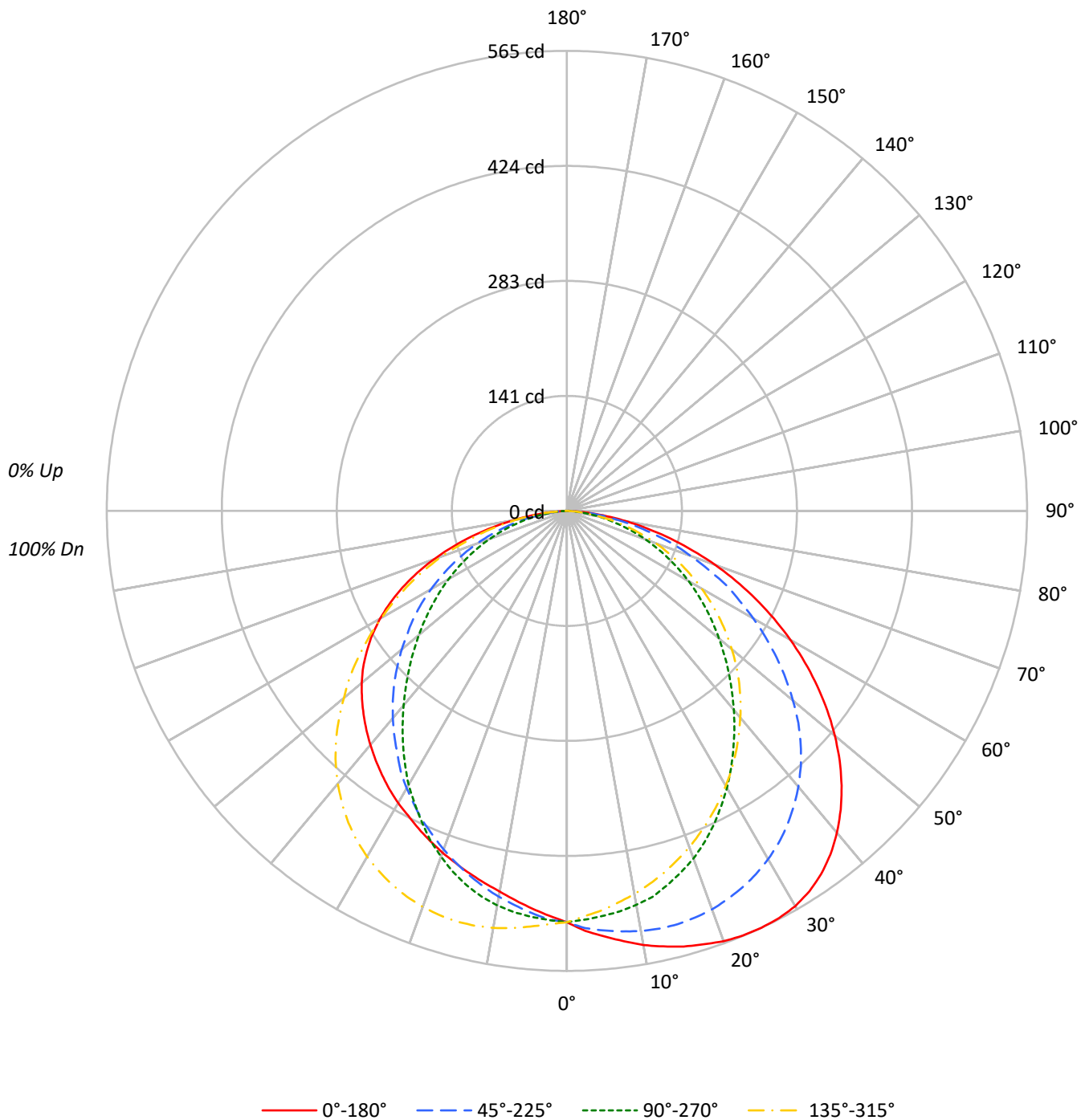
Lumens per Lamp: N/A
Luminaire Lumens: 1481.9 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	1359	1359	1359	1359
5°	1417	1350	1324	1352
10°	1480	1342	1297	1344
15°	1543	1326	1284	1326
20°	1611	1301	1279	1294
25°	1677	1265	1279	1252
30°	1742	1221	1287	1207
35°	1788	1171	1300	1152
40°	1812	1121	1318	1095
45°	1816	1069	1344	1042
50°	1798	1021	1376	993
55°	1761	975	1407	948
60°	1706	928	1426	904
65°	1629	873	1419	853
70°	1522	810	1368	795
75°	1369	722	1256	717
80°	1161	604	1055	614
85°	809	401	670	411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.0	3.2
10°-20°	138.9	9.4
20°-30°	212.8	14.4
30°-40°	258.8	17.5
40°-50°	269.0	18.2
50°-60°	243.0	16.4
60°-70°	184.7	12.5
70°-80°	103.0	6.9
80°-90°	23.7	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°	399.7	27.0
0°-40°	658.4	44.4
0°-60°	1170.5	79.0
0°-90°	1481.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1481.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	505	505	505	505	505	
5°	524	500	490	500	524	51
15°	554	476	461	476	554	157
25°	565	426	431	422	565	261
35°	544	356	396	351	544	340
45°	477	281	353	274	477	367
55°	375	208	300	202	375	335
65°	256	137	223	134	256	253
75°	132	69	121	69	132	140
85°	26	13	22	13	26	33
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°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	516.3	508.8	508.9	515.5	510.4	512.9	505.8	508.5	507.7	508.3	502.5
5°	524.4	516.3	516.2	521.8	516.2	517.3	508.3	510.1	507.5	505.8	499.6
7.5°	533.0	524.9	524.1	529.0	521.6	520.8	510.9	510.9	506.2	502.1	496.2
10°	541.5	533.2	532.1	535.9	526.7	524.0	511.9	510.1	503.8	497.7	491.3
12.5°	547.9	539.4	538.6	540.9	530.6	525.6	511.9	508.3	499.1	490.5	485.6
15°	553.9	545.2	542.9	544.1	532.2	525.6	510.3	504.6	492.9	481.5	475.8
17.5°	558.1	549.8	547.5	547.4	533.0	523.6	506.8	499.0	484.8	471.2	465.4
20°	562.4	554.0	551.2	549.1	532.8	520.9	501.6	491.1	474.6	459.3	454.4
22.5°	564.5	555.9	552.8	549.7	531.3	516.0	495.2	481.9	463.1	444.8	440.8
25°	564.9	556.0	552.7	548.1	528.2	510.1	487.0	470.8	449.7	429.5	426.1
27.5°	563.9	554.2	550.9	545.4	523.6	502.9	477.2	458.2	435.6	413.2	409.6
30°	560.6	550.8	547.6	540.5	517.1	494.0	466.5	444.2	419.9	396.1	392.9
32.5°	554.0	544.5	541.9	534.7	510.1	483.8	454.0	429.1	402.6	379.9	375.2
35°	544.4	534.8	533.2	525.6	500.2	471.5	440.3	412.6	384.2	361.0	356.4
37.5°	531.7	523.7	521.3	513.8	488.5	457.6	424.6	394.7	365.5	340.5	337.7
40°	515.8	508.3	506.4	499.8	475.0	442.2	407.7	376.2	346.2	323.0	319.0
42.5°	497.7	490.6	489.6	482.7	458.2	425.1	389.3	357.0	326.0	303.6	299.6
45°	477.1	470.2	470.0	463.5	440.0	406.1	370.0	337.6	306.3	283.1	281.0
47.5°	454.3	448.2	448.2	442.2	419.6	385.3	350.1	317.3	286.5	266.0	262.3
50°	429.6	423.8	422.0	419.1	397.1	362.5	329.1	297.5	267.0	247.4	243.8
52.5°	403.2	398.2	399.4	394.0	372.7	338.9	307.9	275.2	247.3	229.5	225.9
55°	375.4	368.3	369.4	367.4	347.2	314.5	284.1	256.9	228.0	211.3	207.8
57.5°	346.5	337.3	341.1	339.9	320.1	289.5	262.3	236.0	208.8	193.4	190.1
60°	316.9	308.1	312.0	310.9	292.3	264.5	239.8	215.4	189.7	175.7	172.4
62.5°	286.5	278.4	282.0	281.1	264.0	238.9	217.4	195.0	170.5	157.9	154.8
65°	255.9	248.1	251.3	250.7	234.9	215.9	194.4	173.9	151.2	140.2	137.1
67.5°	224.6	217.4	220.3	220.3	205.8	187.6	171.3	152.6	132.2	122.8	119.9
70°	193.5	186.8	189.3	189.1	176.9	162.0	148.0	131.3	113.0	105.2	102.9
72.5°	162.1	156.2	158.6	158.4	148.1	138.6	124.7	110.2	94.3	88.0	85.9
75°	131.7	126.2	128.4	128.2	119.8	110.9	101.6	89.5	75.9	71.5	69.4
77.5°	102.7	97.1	99.0	99.0	92.8	86.4	78.9	69.6	60.0	55.3	53.7
80°	74.9	72.2	71.3	71.4	67.3	63.0	59.3	50.3	43.2	40.1	39.0
82.5°	49.3	47.0	46.1	46.3	43.9	41.4	39.0	32.8	28.0	26.2	25.6
85°	26.2	24.5	23.7	24.3	23.8	22.4	21.2	17.0	14.0	13.3	13.0
87.5°	8.2	7.2	6.6	8.7	7.4	6.6	6.4	5.1	3.9	3.9	3.8
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°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	504.4	504.4	499.8	498.8	498.3	498.9	494.3	493.4	500.0	497.8	492.7
5°	500.4	500.2	493.7	492.5	492.5	491.8	486.6	485.4	492.0	490.2	484.6
7.5°	495.5	494.7	487.1	486.3	485.1	484.6	478.8	478.0	483.7	482.5	477.3
10°	489.4	488.7	479.7	479.1	477.8	476.8	471.4	470.8	476.6	474.7	470.6
12.5°	481.5	480.3	470.9	470.4	469.3	468.9	463.6	463.4	469.8	467.9	463.5
15°	471.2	470.1	459.8	460.0	460.1	460.1	455.9	455.6	461.9	461.0	456.3
17.5°	459.8	458.3	448.4	449.1	450.0	450.9	447.6	448.2	454.8	453.7	449.5
20°	446.8	445.4	435.7	437.7	439.5	441.4	439.3	440.9	447.0	446.6	443.4
22.5°	432.3	430.9	421.9	425.0	427.9	431.5	430.5	432.4	438.9	438.8	436.0
25°	414.6	415.0	407.1	410.9	415.8	420.8	421.1	424.2	431.4	430.6	428.1
27.5°	398.1	398.6	390.2	396.6	403.2	409.6	411.1	415.3	422.6	422.0	419.8
30°	380.8	381.4	373.3	382.0	390.0	397.8	401.1	406.8	414.3	414.3	411.9
32.5°	362.8	363.8	355.4	367.0	376.3	385.4	391.2	397.2	405.7	405.4	403.4
35°	344.3	345.5	337.7	352.5	361.8	372.9	380.1	388.1	395.7	395.8	394.2
37.5°	325.4	326.8	319.8	336.0	346.6	359.7	368.9	376.9	385.3	385.8	384.3
40°	306.7	308.2	302.1	317.8	331.2	345.8	356.4	365.8	375.0	375.3	374.3
42.5°	288.0	289.6	285.0	300.3	315.5	331.2	343.7	354.4	363.8	364.4	363.4
45°	269.7	271.1	267.8	284.5	299.2	316.2	330.6	342.8	352.3	353.1	352.8
47.5°	251.6	252.9	249.9	265.2	282.1	300.2	316.8	330.3	340.4	341.3	341.1
50°	233.8	234.8	231.6	247.7	264.4	283.7	301.0	316.6	327.9	328.8	328.7
52.5°	216.1	217.2	214.4	231.3	246.5	266.9	285.7	302.6	313.8	315.2	315.4
55°	199.0	199.5	197.4	213.5	228.2	249.6	271.2	287.6	298.8	300.0	300.7
57.5°	181.9	182.0	180.3	195.7	209.8	231.6	254.4	271.6	282.2	283.4	284.4
60°	165.0	164.8	162.8	177.8	191.3	212.9	236.6	253.7	263.9	265.0	266.4
62.5°	148.1	147.8	146.0	159.8	172.5	193.8	217.6	234.1	243.9	244.6	246.5
65°	131.4	131.0	129.4	142.1	153.6	174.0	197.4	213.0	221.9	222.8	222.5
67.5°	114.9	114.2	112.9	124.3	134.8	153.6	176.0	191.0	198.3	199.1	201.4
70°	98.4	97.6	94.6	106.7	115.9	132.8	153.6	167.0	173.1	173.9	173.6
72.5°	82.1	81.3	78.1	89.3	97.1	111.8	130.4	141.5	146.8	147.5	147.5
75°	66.3	65.9	63.9	72.3	78.8	90.8	106.6	115.8	119.9	120.8	120.5
77.5°	51.1	50.8	48.8	56.1	61.2	70.1	82.8	90.0	93.1	94.0	96.0
80°	36.6	36.5	33.3	40.5	42.8	50.3	59.6	65.2	66.8	68.1	69.5
82.5°	23.4	23.6	20.4	26.5	27.5	32.3	38.1	41.5	42.7	43.7	44.8
85°	11.4	11.9	10.1	14.0	14.1	16.6	19.1	20.4	20.9	21.7	22.6
87.5°	2.9	3.4	1.9	4.0	3.5	4.6	5.3	5.7	5.5	6.1	6.5
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°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	494.4	498.2	496.3	502.4	504.8	501.0	507.6	507.7	503.0	508.5	511.6
5°	486.7	490.6	489.4	495.8	498.8	495.5	503.5	505.0	500.4	506.6	511.6
7.5°	479.0	483.6	482.0	488.5	492.0	489.4	498.0	500.5	497.0	503.8	510.4
10°	472.2	476.1	474.5	481.3	484.4	482.3	490.7	495.3	492.0	500.4	508.3
12.5°	465.6	468.8	466.9	472.6	475.5	472.8	483.2	487.4	485.1	493.8	503.9
15°	457.2	460.7	458.1	463.2	465.4	463.1	471.5	478.8	475.9	485.4	496.6
17.5°	450.7	452.7	449.1	453.2	454.4	451.3	459.9	467.1	464.9	475.3	488.3
20°	443.5	445.1	440.2	442.4	442.3	438.3	446.2	453.3	451.9	463.3	478.0
22.5°	435.5	436.3	430.5	431.0	430.8	424.2	431.2	438.4	437.8	449.4	465.9
25°	427.0	427.1	419.7	419.5	416.9	409.1	415.3	423.5	421.7	434.2	451.5
27.5°	418.6	417.5	408.5	406.4	402.3	392.9	398.5	405.8	404.7	417.0	436.2
30°	409.7	408.1	397.2	393.3	387.3	376.6	381.2	388.0	388.6	399.3	419.5
32.5°	401.2	397.3	385.2	379.5	372.0	359.5	362.0	368.9	369.9	380.7	401.4
35°	390.2	387.6	372.7	363.0	355.6	341.9	344.5	349.4	350.8	361.4	382.5
37.5°	379.9	375.7	359.8	348.1	338.5	324.1	324.8	329.8	331.2	341.9	362.8
40°	369.1	363.3	346.2	332.4	321.4	306.3	305.5	310.7	311.8	322.3	341.1
42.5°	357.7	350.6	331.4	316.4	303.8	288.4	286.8	291.3	292.4	302.7	321.2
45°	346.2	337.7	316.4	299.9	286.1	270.4	268.8	272.2	273.9	283.6	301.4
47.5°	333.9	324.0	300.8	282.4	268.2	252.5	250.5	253.9	255.3	264.9	281.7
50°	321.1	309.1	284.8	264.5	250.4	234.9	232.0	236.0	237.3	246.3	262.7
52.5°	306.9	293.6	267.7	246.5	232.4	217.6	214.1	218.0	219.5	228.2	243.4
55°	292.0	277.6	250.5	229.9	214.6	200.2	197.2	198.8	202.1	210.3	224.5
57.5°	275.1	260.9	232.4	211.4	196.6	182.9	180.4	181.8	184.9	192.9	205.6
60°	257.2	242.1	213.9	192.9	178.6	165.5	163.3	164.6	167.9	175.2	187.0
62.5°	239.5	222.6	194.8	173.9	160.9	148.8	148.2	147.8	150.8	157.9	168.3
65°	218.1	201.8	174.9	155.1	143.3	132.3	130.0	131.0	134.0	140.4	151.3
67.5°	195.1	180.4	154.5	136.2	125.7	115.9	113.9	114.4	117.5	123.1	132.6
70°	170.7	157.8	133.6	117.2	108.4	99.2	97.9	98.0	101.0	105.9	114.2
72.5°	145.2	133.5	112.5	98.5	91.2	84.6	83.4	82.0	84.7	89.0	96.0
75°	119.1	108.9	91.5	80.1	74.3	68.8	67.7	66.3	69.0	72.7	78.2
77.5°	92.8	84.6	71.2	62.3	57.9	53.7	52.8	51.3	54.0	56.7	61.0
80°	67.2	61.2	53.1	43.8	42.3	39.6	38.6	37.0	39.6	41.4	44.7
82.5°	43.4	39.4	34.8	28.3	28.0	26.0	25.6	23.7	26.0	27.1	29.6
85°	21.9	20.0	18.9	14.4	14.8	13.5	13.4	11.4	13.3	13.8	15.2
87.5°	6.2	6.6	5.9	3.5	4.5	4.2	4.2	3.1	4.2	4.2	4.8
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°	505.1	505.1	505.1	505.1	505.1	505.1	505.1	505.1
2.5°	505.6	507.6	508.1	507.9	509.2	516.3	514.0	516.3
5°	506.8	511.2	512.4	514.1	516.2	524.2	521.6	524.4
7.5°	507.5	514.2	516.8	520.0	523.4	532.3	530.2	533.0
10°	507.5	516.2	520.0	525.3	529.9	540.2	538.2	541.5
12.5°	505.4	516.5	521.8	529.3	535.2	546.4	545.5	547.9
15°	501.0	514.8	522.1	531.6	538.9	551.4	551.1	553.9
17.5°	495.1	511.7	520.5	532.6	541.8	555.8	556.6	558.1
20°	487.7	505.9	517.5	532.2	543.8	559.2	560.3	562.4
22.5°	477.9	499.0	512.9	530.7	544.0	560.6	562.5	564.5
25°	466.4	490.6	506.9	527.7	542.8	560.5	563.1	564.9
27.5°	453.2	479.8	499.2	523.0	539.5	558.6	561.8	563.9
30°	437.8	468.2	490.5	516.9	535.0	555.1	558.5	560.6
32.5°	422.0	455.5	480.1	509.0	528.6	549.4	552.4	554.0
35°	404.8	440.1	467.6	498.9	520.2	540.3	542.6	544.4
37.5°	386.1	423.3	453.4	487.4	508.4	527.7	529.7	531.7
40°	366.8	405.8	437.4	473.4	494.4	512.3	514.4	515.8
42.5°	347.3	386.3	420.3	456.9	477.8	495.0	496.3	497.7
45°	327.7	366.2	401.1	438.7	459.3	475.4	475.9	477.1
47.5°	307.6	345.3	380.0	417.8	438.2	452.9	453.4	454.3
50°	287.5	324.5	357.5	395.3	415.2	430.8	428.6	429.6
52.5°	267.7	302.6	336.3	371.0	390.7	404.5	405.1	403.2
55°	248.3	281.1	312.1	345.6	364.3	375.0	374.7	375.4
57.5°	228.6	259.5	287.8	318.5	336.7	346.9	349.0	346.5
60°	208.5	237.5	263.0	290.7	308.3	316.8	319.3	316.9
62.5°	188.6	215.3	238.4	262.5	278.9	289.4	289.1	286.5
65°	168.7	192.9	213.5	234.0	248.3	258.7	258.3	255.9
67.5°	150.3	170.3	188.8	205.4	217.7	224.9	227.4	224.6
70°	130.1	147.3	163.5	176.9	187.1	193.6	195.9	193.5
72.5°	109.8	124.4	135.9	148.7	156.6	162.0	164.5	162.1
75°	89.8	101.8	111.1	121.1	126.7	131.3	134.1	131.7
77.5°	70.3	79.6	87.1	94.4	100.7	101.8	104.3	102.7
80°	51.8	58.6	64.0	68.8	73.4	73.9	75.9	74.9
82.5°	34.5	39.0	40.4	45.5	48.4	48.0	50.0	49.3
85°	18.3	21.0	23.4	25.0	26.6	25.1	26.9	26.2
87.5°	6.1	6.5	5.7	8.0	8.8	7.5	8.6	8.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)