

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P837858

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-30-120-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: P837858
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-30-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

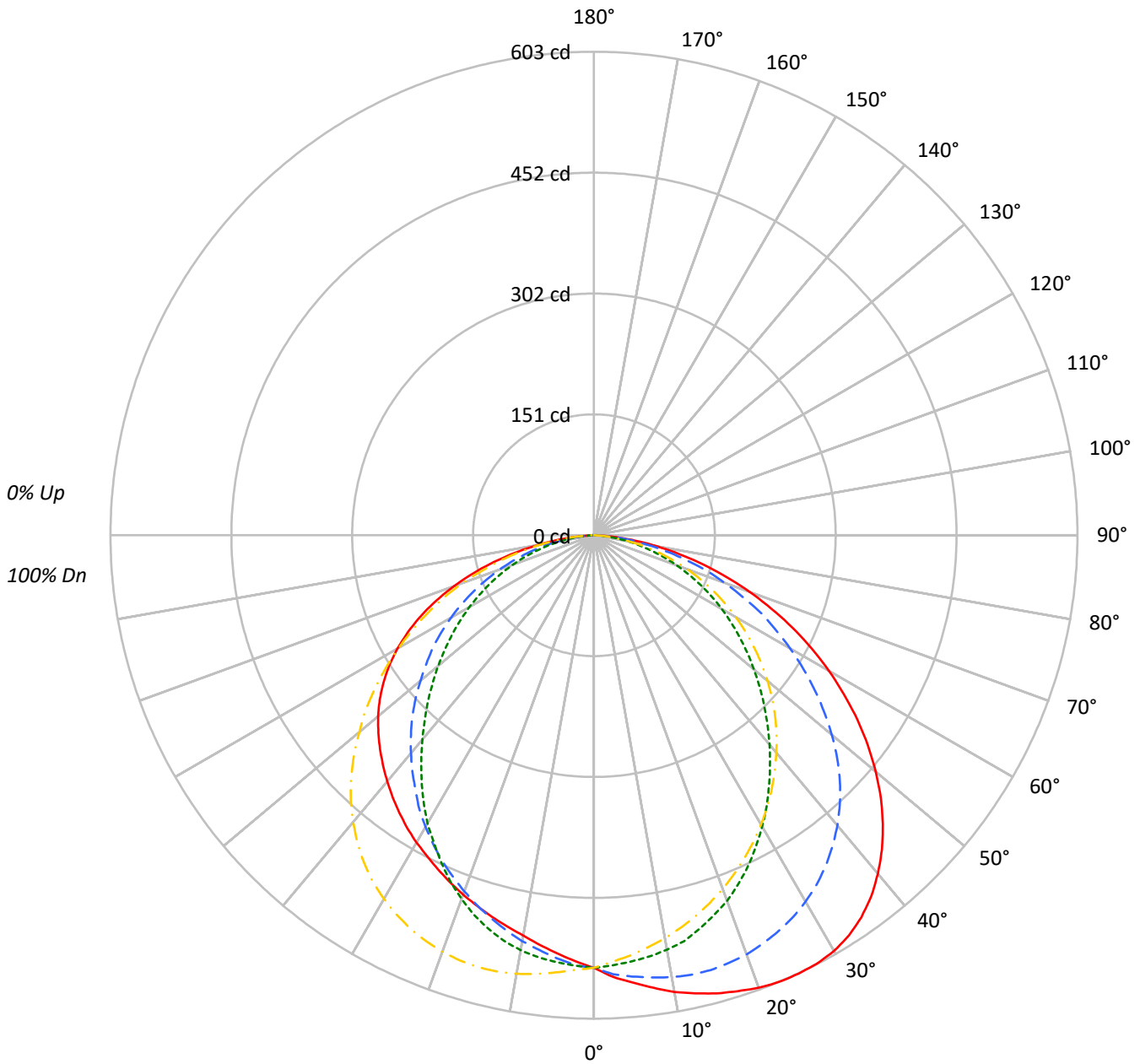
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1583.0 lumens
Efficiency: N/A
Efficacy: 95.4 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

TEST NUMBER: P837858
CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1STD-30-120-EDD

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - 90°-270° - · · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	61	61	61	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1452	1452	1452	1452
5°	1513	1441	1414	1444
10°	1580	1434	1386	1436
15°	1648	1416	1372	1416
20°	1720	1390	1366	1382
25°	1792	1351	1366	1337
30°	1861	1304	1375	1290
35°	1910	1251	1389	1231
40°	1936	1197	1408	1170
45°	1939	1142	1435	1114
50°	1921	1090	1471	1061
55°	1881	1042	1503	1012
60°	1822	991	1524	965
65°	1741	933	1515	911
70°	1626	865	1462	849
75°	1463	770	1341	767
80°	1240	646	1127	656
85°	861	426	716	438



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.2	3.2
10°-20°	148.3	9.4
20°-30°	227.3	14.4
30°-40°	276.4	17.5
40°-50°	287.4	18.2
50°-60°	259.6	16.4
60°-70°	197.3	12.5
70°-80°	110.0	7.0
80°-90°	25.3	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°	426.9	27.0
0°-40°	703.3	44.4
0°-60°	1250.3	79.0
0°-90°	1583.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1583.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	540	540	540	540	540	
5°	560	534	524	534	560	54
15°	592	508	492	508	592	168
25°	603	455	460	450	603	279
35°	582	381	423	375	582	363
45°	510	300	377	293	510	392
55°	401	222	320	216	401	358
65°	273	146	238	143	273	270
75°	141	74	129	74	141	149
85°	28	14	23	14	28	35
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°	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6
2.5°	551.5	543.5	543.6	550.6	545.2	547.9	540.3	543.2	542.3	543.0	536.8
5°	560.2	551.5	551.4	557.4	551.4	552.5	543.0	544.8	542.1	540.3	533.6
7.5°	569.4	560.7	559.8	565.1	557.2	556.3	545.7	545.7	540.7	536.3	530.0
10°	578.4	569.5	568.4	572.4	562.6	559.7	546.9	544.8	538.2	531.6	524.8
12.5°	585.2	576.2	575.3	577.8	566.7	561.5	546.9	543.0	533.1	523.9	518.7
15°	591.7	582.3	580.0	581.2	568.5	561.5	545.1	539.1	526.5	514.4	508.2
17.5°	596.2	587.3	584.9	584.7	569.4	559.3	541.3	533.0	517.9	503.3	497.1
20°	600.7	591.8	588.8	586.5	569.1	556.4	535.8	524.6	507.0	490.6	485.4
22.5°	603.0	593.8	590.5	587.1	567.5	551.1	529.0	514.8	494.6	475.1	470.8
25°	603.4	593.9	590.4	585.5	564.2	544.8	520.2	502.9	480.4	458.8	455.1
27.5°	602.4	592.0	588.5	582.6	559.3	537.2	509.7	489.5	465.3	441.4	437.5
30°	598.8	588.4	585.0	577.3	552.4	527.7	498.3	474.5	448.6	423.1	419.7
32.5°	591.8	581.6	578.8	571.1	544.8	516.8	484.9	458.4	430.1	405.8	400.7
35°	581.5	571.3	569.5	561.5	534.3	503.7	470.3	440.8	410.4	385.6	380.7
37.5°	568.0	559.4	556.8	548.9	521.8	488.8	453.6	421.6	390.4	363.7	360.7
40°	551.0	543.0	540.9	533.9	507.3	472.3	435.5	401.9	369.8	345.0	340.7
42.5°	531.6	524.1	522.9	515.6	489.5	454.1	415.8	381.4	348.2	324.3	320.1
45°	509.6	502.3	502.0	495.1	470.0	433.8	395.2	360.6	327.2	302.4	300.2
47.5°	485.3	478.8	478.8	472.3	448.2	411.6	373.9	338.9	306.1	284.2	280.2
50°	458.9	452.7	450.8	447.7	424.1	387.3	351.5	317.8	285.2	264.3	260.4
52.5°	430.7	425.4	426.7	420.9	398.1	362.0	328.9	294.0	264.2	245.2	241.3
55°	401.0	393.4	394.6	392.4	370.9	335.9	303.4	274.4	243.5	225.7	222.0
57.5°	370.1	360.3	364.4	363.1	342.0	309.2	280.2	252.1	223.0	206.5	203.0
60°	338.6	329.1	333.3	332.1	312.3	282.6	256.1	230.1	202.6	187.7	184.1
62.5°	306.1	297.4	301.2	300.3	282.0	255.2	232.2	208.3	182.1	168.7	165.4
65°	273.4	265.1	268.5	267.8	251.0	230.6	207.7	185.8	161.5	149.8	146.5
67.5°	239.9	232.2	235.4	235.4	219.9	200.4	183.0	163.0	141.2	131.1	128.1
70°	206.7	199.5	202.3	202.0	188.9	173.1	158.1	140.2	120.7	112.4	109.9
72.5°	173.2	166.9	169.4	169.2	158.2	148.0	133.2	117.7	100.7	94.0	91.8
75°	140.7	134.8	137.2	136.9	128.0	118.4	108.5	95.7	81.1	76.4	74.1
77.5°	109.7	103.7	105.7	105.7	99.2	92.3	84.3	74.4	64.1	59.0	57.4
80°	80.0	77.2	76.1	76.3	71.9	67.3	63.3	53.7	46.2	42.8	41.7
82.5°	52.6	50.2	49.2	49.5	46.9	44.2	41.7	35.0	30.0	27.9	27.3
85°	27.9	26.2	25.3	25.9	25.4	23.9	22.7	18.1	15.0	14.2	13.8
87.5°	8.8	7.7	7.0	9.3	7.9	7.0	6.8	5.4	4.2	4.2	4.0
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6
2.5°	538.8	538.8	533.9	532.8	532.3	532.9	528.0	527.1	534.1	531.8	526.3
5°	534.5	534.3	527.3	526.1	526.1	525.3	519.8	518.5	525.6	523.6	517.7
7.5°	529.2	528.5	520.3	519.4	518.2	517.7	511.5	510.6	516.6	515.4	509.9
10°	522.8	522.1	512.4	511.7	510.4	509.3	503.6	502.9	509.1	507.1	502.7
12.5°	514.4	513.0	503.1	502.4	501.3	500.9	495.3	495.0	501.8	499.8	495.1
15°	503.3	502.2	491.1	491.4	491.5	491.5	486.9	486.7	493.4	492.5	487.4
17.5°	491.1	489.6	479.0	479.8	480.7	481.7	478.1	478.8	485.8	484.7	480.1
20°	477.3	475.7	465.4	467.6	469.5	471.5	469.2	471.0	477.5	477.0	473.6
22.5°	461.8	460.3	450.7	454.0	457.1	460.9	459.9	461.9	468.8	468.7	465.7
25°	442.9	443.3	434.8	438.9	444.2	449.4	449.8	453.1	460.8	460.0	457.2
27.5°	425.3	425.8	416.8	423.6	430.7	437.5	439.1	443.7	451.5	450.8	448.4
30°	406.8	407.4	398.7	408.0	416.6	424.9	428.4	434.6	442.5	442.5	440.0
32.5°	387.5	388.7	379.6	392.0	402.0	411.7	417.8	424.3	433.3	433.1	430.9
35°	367.8	369.0	360.7	376.6	386.5	398.3	406.0	414.6	422.6	422.8	421.1
37.5°	347.6	349.1	341.6	358.9	370.3	384.2	394.1	402.6	411.6	412.1	410.5
40°	327.6	329.2	322.7	339.4	353.8	369.4	380.7	390.8	400.6	400.9	399.9
42.5°	307.6	309.4	304.5	320.8	337.0	353.8	367.1	378.6	388.7	389.3	388.1
45°	288.1	289.6	286.1	303.9	319.6	337.8	353.2	366.1	376.3	377.2	376.8
47.5°	268.7	270.1	266.9	283.3	301.3	320.7	338.4	352.8	363.6	364.6	364.4
50°	249.7	250.8	247.4	264.6	282.4	303.1	321.6	338.2	350.3	351.3	351.1
52.5°	230.8	232.0	229.1	247.1	263.3	285.1	305.2	323.2	335.2	336.7	336.9
55°	212.6	213.1	210.8	228.1	243.8	266.6	289.7	307.2	319.2	320.4	321.2
57.5°	194.3	194.5	192.6	209.1	224.2	247.4	271.7	290.1	301.4	302.7	303.8
60°	176.2	176.1	173.9	189.9	204.4	227.4	252.7	271.0	281.9	283.1	284.6
62.5°	158.2	157.8	155.9	170.7	184.3	207.0	232.5	250.1	260.5	261.3	263.3
65°	140.3	140.0	138.2	151.8	164.1	185.9	210.8	227.6	237.0	238.0	237.6
67.5°	122.7	122.0	120.6	132.8	144.0	164.1	188.0	204.0	211.8	212.7	215.1
70°	105.1	104.2	101.1	114.0	123.8	141.8	164.1	178.3	184.9	185.8	185.4
72.5°	87.7	86.8	83.4	95.4	103.7	119.4	139.3	151.2	156.8	157.6	157.6
75°	70.9	70.4	68.2	77.3	84.2	97.0	113.9	123.7	128.1	129.0	128.8
77.5°	54.6	54.2	52.1	59.9	65.3	74.9	88.5	96.2	99.4	100.4	102.6
80°	39.1	39.0	35.6	43.3	45.7	53.7	63.7	69.6	71.4	72.7	74.3
82.5°	25.0	25.2	21.8	28.3	29.3	34.5	40.7	44.3	45.6	46.7	47.8
85°	12.2	12.7	10.8	15.0	15.1	17.7	20.4	21.8	22.3	23.2	24.2
87.5°	3.1	3.6	2.0	4.3	3.8	4.9	5.7	6.0	5.9	6.5	6.9
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°	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6
2.5°	528.1	532.1	530.1	536.7	539.2	535.1	542.2	542.3	537.3	543.2	546.5
5°	519.9	524.1	522.8	529.6	532.8	529.2	537.8	539.4	534.5	541.2	546.5
7.5°	511.6	516.5	514.9	521.8	525.6	522.8	532.0	534.6	530.9	538.2	545.2
10°	504.4	508.6	506.8	514.1	517.4	515.1	524.2	529.1	525.6	534.5	543.0
12.5°	497.4	500.8	498.8	504.8	508.0	505.1	516.1	520.7	518.2	527.5	538.3
15°	488.3	492.1	489.3	494.7	497.1	494.6	503.7	511.5	508.3	518.5	530.5
17.5°	481.4	483.5	479.8	484.1	485.4	482.0	491.2	498.9	496.6	507.7	521.6
20°	473.7	475.5	470.2	472.6	472.5	468.2	476.6	484.2	482.7	494.9	510.6
22.5°	465.2	466.1	459.9	460.4	460.1	453.1	460.6	468.3	467.7	480.0	497.6
25°	456.1	456.2	448.3	448.1	445.3	437.0	443.7	452.3	450.4	463.8	482.3
27.5°	447.2	445.9	436.4	434.1	429.7	419.7	425.7	433.5	432.3	445.4	465.9
30°	437.6	436.0	424.3	420.1	413.7	402.2	407.2	414.5	415.1	426.5	448.1
32.5°	428.5	424.4	411.4	405.4	397.3	384.0	386.6	394.1	395.1	406.6	428.8
35°	416.8	414.1	398.1	387.8	379.8	365.2	368.0	373.2	374.7	386.0	408.5
37.5°	405.8	401.4	384.4	371.8	361.6	346.2	347.0	352.3	353.8	365.2	387.5
40°	394.3	388.0	369.8	355.0	343.3	327.2	326.4	331.9	333.0	344.2	364.4
42.5°	382.1	374.6	354.0	337.9	324.5	308.1	306.3	311.1	312.4	323.3	343.1
45°	369.8	360.7	337.9	320.3	305.6	288.8	287.1	290.7	292.6	302.9	321.9
47.5°	356.7	346.1	321.3	301.7	286.5	269.7	267.6	271.2	272.7	282.9	300.9
50°	343.0	330.1	304.2	282.6	267.4	251.0	247.8	252.1	253.5	263.0	280.7
52.5°	327.9	313.6	285.9	263.3	248.2	232.5	228.7	232.8	234.5	243.8	260.0
55°	311.9	296.5	267.6	245.5	229.2	213.8	210.7	212.3	215.8	224.7	239.8
57.5°	293.9	278.7	248.2	225.8	210.1	195.3	192.7	194.2	197.5	206.0	219.6
60°	274.7	258.6	228.4	206.0	190.8	176.8	174.4	175.8	179.3	187.2	199.7
62.5°	255.9	237.7	208.0	185.8	171.9	159.0	158.3	157.8	161.1	168.7	179.7
65°	233.0	215.6	186.8	165.6	153.0	141.3	138.8	140.0	143.1	150.0	161.6
67.5°	208.4	192.7	165.0	145.5	134.3	123.8	121.7	122.2	125.5	131.5	141.6
70°	182.4	168.5	142.7	125.2	115.8	106.0	104.6	104.7	107.9	113.1	122.0
72.5°	155.1	142.6	120.2	105.2	97.4	90.4	89.1	87.6	90.5	95.0	102.6
75°	127.2	116.3	97.8	85.6	79.4	73.5	72.4	70.9	73.8	77.7	83.6
77.5°	99.2	90.4	76.0	66.6	61.8	57.4	56.4	54.7	57.6	60.5	65.2
80°	71.7	65.3	56.8	46.8	45.2	42.3	41.3	39.5	42.3	44.2	47.7
82.5°	46.3	42.0	37.1	30.2	30.0	27.8	27.3	25.3	27.8	28.9	31.6
85°	23.4	21.4	20.1	15.4	15.9	14.5	14.3	12.2	14.2	14.7	16.2
87.5°	6.7	7.0	6.3	3.8	4.8	4.5	4.5	3.3	4.5	4.5	5.2
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°	539.6	539.6	539.6	539.6	539.6	539.6	539.6	539.6
2.5°	540.1	542.2	542.7	542.6	544.0	551.5	549.0	551.5
5°	541.3	546.1	547.4	549.1	551.4	559.9	557.2	560.2
7.5°	542.1	549.2	552.0	555.4	559.1	568.6	566.4	569.4
10°	542.1	551.4	555.4	561.1	566.0	577.1	574.9	578.4
12.5°	539.8	551.8	557.4	565.4	571.6	583.6	582.7	585.2
15°	535.1	549.9	557.7	567.9	575.7	589.0	588.6	591.7
17.5°	528.9	546.6	556.0	568.9	578.7	593.7	594.6	596.2
20°	520.9	540.4	552.8	568.5	580.8	597.3	598.5	600.7
22.5°	510.5	533.0	547.9	566.9	581.1	598.8	600.8	603.0
25°	498.1	524.1	541.4	563.7	579.8	598.7	601.5	603.4
27.5°	484.1	512.5	533.3	558.7	576.3	596.7	600.1	602.4
30°	467.7	500.2	523.9	552.1	571.5	592.9	596.6	598.8
32.5°	450.8	486.6	512.9	543.7	564.6	586.9	590.0	591.8
35°	432.4	470.1	499.5	532.9	555.7	577.2	579.6	581.5
37.5°	412.4	452.2	484.3	520.7	543.1	563.7	565.9	568.0
40°	391.8	433.5	467.2	505.7	528.1	547.2	549.5	551.0
42.5°	371.0	412.7	448.9	488.1	510.4	528.7	530.1	531.6
45°	350.0	391.2	428.4	468.6	490.6	507.8	508.3	509.6
47.5°	328.6	368.9	405.9	446.3	468.1	483.8	484.3	485.3
50°	307.1	346.6	381.9	422.3	443.5	460.1	457.9	458.9
52.5°	285.9	323.2	359.2	396.3	417.3	432.1	432.7	430.7
55°	265.2	300.3	333.4	369.1	389.2	400.6	400.2	401.0
57.5°	244.2	277.1	307.5	340.2	359.7	370.5	372.8	370.1
60°	222.8	253.7	280.9	310.5	329.4	338.4	341.1	338.6
62.5°	201.5	229.9	254.6	280.4	297.9	309.1	308.9	306.1
65°	180.2	206.0	228.1	250.0	265.2	276.4	275.9	273.4
67.5°	160.6	181.9	201.6	219.4	232.6	240.3	242.9	239.9
70°	138.9	157.3	174.7	188.9	199.9	206.8	209.3	206.7
72.5°	117.3	132.9	145.1	158.8	167.3	173.1	175.7	173.2
75°	95.9	108.7	118.7	129.4	135.3	140.2	143.2	140.7
77.5°	75.1	85.1	93.0	100.8	107.6	108.7	111.4	109.7
80°	55.4	62.6	68.3	73.5	78.4	78.9	81.1	80.0
82.5°	36.9	41.7	43.2	48.6	51.7	51.2	53.4	52.6
85°	19.5	22.4	25.0	26.7	28.4	26.8	28.7	27.9
87.5°	6.5	6.9	6.0	8.6	9.4	8.1	9.2	8.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)