

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: NEO-RAY

Report Number: P242761

Luminaire Tested: **S124RDR-S350D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242761
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S350D940-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1221.4 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

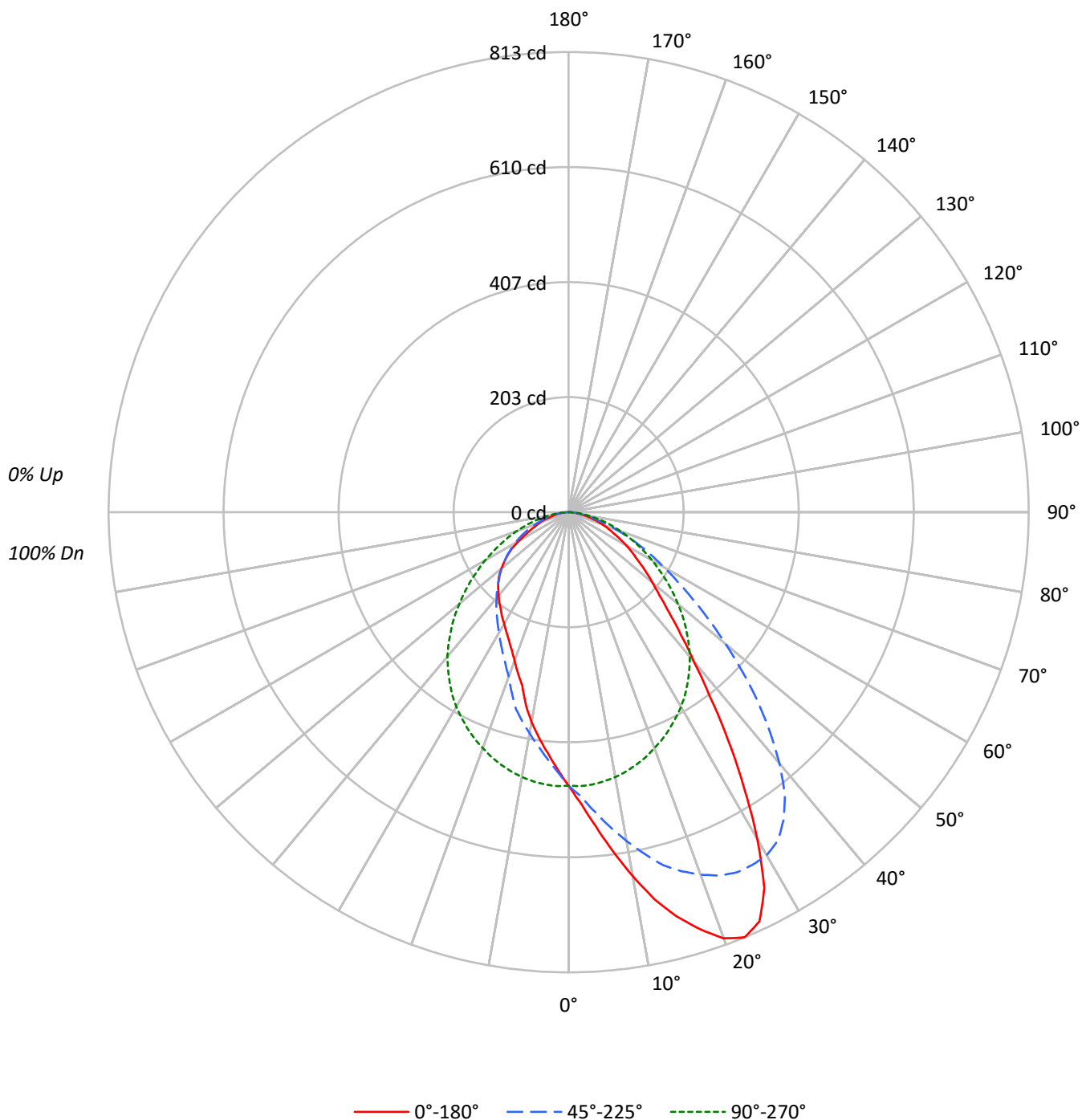
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86		86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74		74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63		63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55		55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48		48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43		43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38		38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34		34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31		31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28		28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4295	4295	4295
5°	4982	4308	3807
10°	5893	4289	3398
15°	6808	4250	2920
20°	7580	4195	2641
25°	7825	4141	2452
30°	6849	4076	2338
35°	5332	3980	2269
40°	3999	3870	2231
45°	3157	3693	2212
50°	2665	3489	2148
55°	2323	3264	2033
60°	2091	3031	1799
65°	1842	2781	1548
70°	1661	2518	1396
75°	1391	2232	1192
80°	1177	1904	1116
85°	989	1489	989

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.8	3.8
10°-20°	141.3	11.6
20°-30°	221.3	18.1
30°-40°	245.8	20.1
40°-50°	217.8	17.8
50°-60°	169.7	13.9
60°-70°	111.0	9.1
70°-80°	54.5	4.5
80°-90°	13.3	1.1
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°	409.4	33.5
0°-40°	655.2	53.6
0°-60°	1042.7	85.4
0°-90°	1221.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1221.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	483	483	483	483	483	
5°	558	532	483	437	427	56
15°	740	646	462	360	317	210
25°	798	702	422	275	250	356
35°	491	662	367	221	209	308
45°	251	472	294	176	176	198
55°	150	267	211	133	131	136
65°	88	137	132	86	74	88
75°	40	52	65	42	35	44
85°	10	10	15	10	10	11
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	516.3	518.0	516.3	516.1	514.1	513.5	512.8	510.2	505.6	502.8	503.4
5°	558.3	563.2	560.5	560.1	555.8	551.5	548.8	542.5	535.9	531.5	527.8
7.5°	605.0	608.0	606.0	603.9	596.5	594.1	587.7	580.3	569.2	560.8	553.3
10°	652.9	655.3	654.5	649.4	644.4	634.0	628.2	616.7	601.7	589.9	578.8
12.5°	700.0	702.6	694.2	695.8	685.0	677.5	667.3	652.1	634.2	618.1	603.5
15°	739.8	736.6	736.6	732.7	722.0	710.7	701.2	686.0	664.2	645.9	626.6
17.5°	772.5	773.8	772.3	762.3	754.5	743.1	725.9	708.6	689.7	665.2	646.1
20°	801.3	801.3	799.5	793.3	782.4	769.9	751.0	731.8	706.1	681.4	659.2
22.5°	812.9	813.7	811.6	806.7	797.2	785.1	769.7	750.1	723.4	694.8	666.0
25°	797.8	801.5	801.9	800.5	797.6	790.2	776.4	756.3	732.5	702.4	672.8
27.5°	748.7	753.6	755.5	759.8	767.8	770.7	769.0	755.5	732.5	702.8	673.4
30°	667.3	671.2	683.9	700.4	713.3	725.0	735.1	737.8	726.1	700.0	668.7
32.5°	577.0	582.7	595.3	613.4	637.0	658.8	684.7	698.5	701.0	688.0	659.5
35°	491.4	495.2	506.9	525.6	551.3	580.7	616.7	644.8	663.8	662.5	644.8
37.5°	409.2	414.7	426.5	441.9	467.2	504.8	538.9	576.4	610.7	627.4	618.5
40°	344.6	344.8	356.2	372.2	395.6	427.3	465.3	508.1	547.4	579.5	585.8
42.5°	293.6	293.6	300.2	317.7	332.9	362.3	398.1	440.5	488.2	526.6	545.7
45°	251.1	252.9	259.1	269.4	282.7	308.0	337.0	376.5	428.1	472.1	499.5
47.5°	217.6	220.8	224.5	233.8	244.7	262.4	287.1	324.1	367.0	415.8	453.8
50°	192.7	193.1	198.2	202.8	212.0	225.4	246.5	276.0	314.6	361.1	404.5
52.5°	171.3	171.1	173.6	179.9	186.9	196.6	212.6	238.9	272.0	312.4	357.6
55°	149.9	150.9	153.2	157.9	163.5	170.9	184.4	204.6	231.5	267.1	307.8
57.5°	133.5	134.1	136.3	138.0	143.5	148.9	159.8	174.4	198.0	227.8	267.7
60°	117.6	117.8	118.4	121.3	125.4	130.4	137.2	149.1	168.2	194.9	224.8
62.5°	102.0	102.4	103.4	105.3	108.2	111.4	118.6	127.5	142.5	164.3	190.6
65°	87.6	87.8	89.2	89.9	92.5	95.6	100.8	107.3	118.2	137.2	157.7
67.5°	75.5	75.5	75.5	76.7	78.6	80.8	84.3	89.7	98.5	110.8	129.8
70°	63.9	63.9	64.2	64.8	65.8	67.6	69.3	73.2	79.2	88.8	102.6
72.5°	53.0	53.1	53.5	53.5	53.9	55.3	56.5	58.6	62.7	69.3	79.8
75°	40.5	41.1	42.0	42.8	43.8	43.6	45.0	46.5	47.9	52.2	58.6
77.5°	31.9	31.5	31.5	32.3	32.5	32.7	33.7	35.0	36.2	38.5	40.9
80°	23.0	23.0	23.6	23.7	23.6	23.7	24.7	25.3	25.7	26.5	28.6
82.5°	16.0	16.4	16.0	16.2	16.4	16.5	17.3	17.3	17.7	17.9	18.5
85°	9.7	9.9	10.1	9.7	9.7	9.7	10.1	10.3	10.7	10.5	10.9
87.5°	4.3	4.1	4.3	4.3	4.5	4.3	4.5	4.9	4.5	4.7	4.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	501.5	498.7	497.4	494.3	490.6	488.6	486.9	484.3	481.0	477.5	475.0
5°	523.1	518.4	512.6	505.6	499.3	493.3	488.0	482.8	476.8	470.5	464.3
7.5°	544.5	536.1	527.2	516.5	506.1	496.6	488.0	479.7	470.1	461.6	453.6
10°	567.1	554.6	540.8	526.2	511.6	498.9	486.5	475.2	462.7	451.6	442.3
12.5°	585.4	570.2	552.9	533.8	515.5	499.5	484.7	469.2	454.6	442.3	429.1
15°	606.0	586.0	563.6	541.8	519.0	498.2	478.9	461.8	445.6	428.7	416.8
17.5°	620.2	597.1	570.6	545.3	519.2	495.0	473.2	453.4	434.9	418.0	403.9
20°	632.7	606.4	576.2	546.4	516.3	490.0	466.0	443.5	424.2	405.5	390.9
22.5°	639.7	609.9	576.2	544.7	513.2	484.1	457.3	433.5	412.1	393.4	376.9
25°	640.1	608.9	575.3	539.4	505.2	475.0	447.7	422.2	398.9	380.2	363.1
27.5°	638.5	602.5	568.6	532.2	497.0	464.9	436.6	409.6	386.4	366.6	349.0
30°	633.9	594.5	557.5	519.4	483.6	453.0	422.8	397.1	372.8	352.0	334.3
32.5°	623.7	584.8	544.3	505.0	468.6	436.8	408.6	382.7	359.0	337.6	318.5
35°	609.7	570.2	527.0	486.9	451.2	418.5	391.7	366.8	344.0	321.2	301.4
37.5°	593.6	552.3	509.7	465.7	430.2	399.1	374.0	350.0	327.8	307.0	285.0
40°	568.6	531.8	487.5	443.9	407.3	377.5	354.7	333.5	311.1	290.5	268.5
42.5°	538.5	508.5	463.5	419.7	383.7	355.3	334.4	313.8	294.0	274.1	250.9
45°	504.2	480.4	438.4	396.4	359.9	331.5	312.1	293.8	275.8	256.8	235.2
47.5°	466.0	448.5	411.9	367.9	333.9	307.8	289.1	273.9	258.1	238.9	219.4
50°	425.9	415.6	380.6	341.3	309.1	285.6	266.3	252.3	239.6	221.3	204.4
52.5°	383.1	378.8	350.6	313.4	282.7	259.7	243.9	231.7	218.8	204.4	188.8
55°	339.5	342.4	317.3	284.8	255.6	236.1	221.1	210.6	199.7	186.9	174.6
57.5°	294.1	305.2	286.6	257.2	228.9	210.6	199.1	189.8	180.7	169.8	158.7
60°	254.2	263.2	253.7	228.5	204.6	187.9	177.3	170.5	161.4	151.6	143.7
62.5°	215.3	225.0	220.4	201.3	179.5	165.7	156.7	150.5	144.3	136.1	127.7
65°	184.0	190.2	187.5	173.5	157.7	145.4	136.9	132.2	126.0	119.7	112.3
67.5°	147.2	159.4	157.5	149.7	134.5	124.8	118.7	114.5	108.6	104.0	98.7
70°	115.8	126.9	126.7	120.7	113.3	104.3	100.5	96.9	91.9	87.4	83.3
72.5°	89.5	99.5	101.4	97.1	92.7	86.4	82.7	80.6	75.7	73.0	69.9
75°	66.4	73.8	75.7	75.7	73.4	69.9	66.6	65.0	61.5	58.8	56.8
77.5°	46.7	51.8	54.7	55.3	55.5	54.1	51.0	49.8	47.1	46.1	44.0
80°	30.8	33.9	37.4	38.5	39.5	39.1	38.0	37.2	34.7	33.7	32.9
82.5°	18.9	20.2	23.0	25.9	25.3	26.7	25.7	25.1	23.4	23.2	22.4
85°	11.1	11.3	11.7	13.4	14.4	14.8	15.0	14.6	14.0	14.0	12.7
87.5°	4.7	4.5	4.9	4.9	5.1	5.8	6.4	6.6	6.0	5.5	4.9
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	472.3	470.3	467.8	464.9	461.4	458.3	456.9	458.1	458.6	457.1	456.9
5°	460.0	455.1	451.2	445.4	440.7	436.8	434.1	432.9	433.3	430.2	429.4
7.5°	446.4	441.1	434.7	428.1	421.9	416.4	413.5	412.1	408.8	407.4	405.3
10°	433.3	425.6	419.3	411.1	403.7	396.9	393.6	390.9	387.6	386.0	382.7
12.5°	419.9	410.6	403.6	395.0	387.4	378.8	375.7	370.1	364.4	360.7	356.2
15°	407.4	396.5	388.2	378.1	369.1	359.8	351.4	342.0	338.5	331.1	326.9
17.5°	392.7	381.4	372.0	359.0	345.5	334.3	324.9	315.2	309.9	304.9	302.7
20°	378.1	367.9	353.5	337.8	322.4	309.5	302.3	296.5	290.6	287.3	285.0
22.5°	364.2	350.6	333.3	316.0	300.6	291.2	285.4	279.4	274.9	271.8	268.5
25°	348.5	331.5	313.8	294.3	283.8	275.1	268.5	263.6	260.7	256.6	255.0
27.5°	333.1	312.6	292.6	279.4	268.5	260.1	254.0	250.5	246.6	243.9	241.8
30°	314.8	294.0	276.4	264.0	252.9	246.3	241.6	237.3	234.4	232.2	230.7
32.5°	296.7	275.8	261.8	248.2	240.0	233.6	228.5	225.6	223.5	220.6	219.8
35°	279.4	260.9	248.0	235.9	227.0	221.1	217.3	213.9	212.0	211.2	210.6
37.5°	262.4	247.0	232.8	223.1	214.7	210.2	205.2	203.6	202.3	200.5	201.3
40°	246.5	232.2	220.0	209.5	203.0	198.0	195.3	193.3	192.1	192.1	192.1
42.5°	232.6	218.8	206.9	197.8	191.4	187.3	184.2	182.6	182.4	182.2	183.4
45°	218.2	205.4	193.3	185.5	180.1	175.8	174.0	172.7	172.7	173.5	173.6
47.5°	203.8	191.8	182.0	173.1	168.0	165.3	163.7	162.9	162.9	163.9	164.7
50°	190.8	178.9	169.4	161.6	156.9	154.4	153.0	152.6	153.0	153.0	154.4
52.5°	176.6	166.2	156.9	150.7	145.2	142.9	142.3	141.7	141.9	142.7	143.1
55°	162.7	153.2	144.3	138.0	134.1	132.6	130.8	131.0	130.6	131.0	131.0
57.5°	148.7	140.4	131.6	126.5	123.2	120.9	118.9	119.5	118.9	118.9	118.7
60°	135.3	126.0	119.3	114.9	111.0	109.0	107.3	107.7	107.1	106.7	105.9
62.5°	120.7	113.3	107.1	102.8	99.9	97.5	95.8	95.2	93.6	92.1	90.1
65°	106.7	100.3	94.6	90.5	87.6	85.9	84.5	83.3	80.4	77.3	75.7
67.5°	92.9	88.2	82.7	79.2	76.9	74.6	72.0	69.9	67.0	65.0	64.0
70°	79.6	75.1	70.7	67.4	64.8	62.7	59.8	58.4	56.5	55.7	54.7
72.5°	67.0	62.9	58.8	55.9	53.1	51.6	49.4	48.1	47.5	47.3	46.3
75°	54.1	50.8	47.7	45.0	42.8	41.7	40.7	39.7	39.3	37.6	36.6
77.5°	41.7	39.3	37.4	35.2	33.9	33.1	31.0	29.6	28.8	27.8	27.6
80°	30.8	29.2	27.3	26.1	23.9	23.2	22.4	22.2	22.0	21.8	21.6
82.5°	21.2	19.7	17.7	17.1	16.9	16.5	16.2	16.0	15.8	16.0	16.0
85°	11.7	10.9	10.9	10.7	10.5	10.3	10.1	10.1	9.9	10.1	9.9
87.5°	4.9	4.7	4.7	4.3	4.5	4.5	4.3	4.3	4.5	4.1	4.1
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):

	165°	170°	175°	180°
0°	483.2	483.2	483.2	483.2
2.5°	455.7	456.1	454.8	454.4
5°	427.9	427.5	426.5	426.7
7.5°	403.7	402.4	403.4	401.8
10°	381.9	379.8	378.1	376.5
12.5°	352.2	350.4	347.9	348.9
15°	324.3	321.4	316.7	317.3
17.5°	299.4	299.8	297.1	297.8
20°	280.9	279.5	279.7	279.2
22.5°	268.1	266.3	264.6	263.2
25°	253.3	252.1	250.3	250.0
27.5°	240.2	240.0	239.3	238.3
30°	229.1	228.7	228.3	227.8
32.5°	219.2	219.0	218.6	218.8
35°	209.9	209.7	209.3	209.1
37.5°	201.1	201.7	201.3	201.3
40°	191.9	192.1	192.5	192.3
42.5°	184.4	184.4	184.9	184.2
45°	175.0	176.2	176.0	176.0
47.5°	165.1	166.4	166.6	166.6
50°	155.3	155.0	155.5	155.3
52.5°	143.5	143.7	143.5	143.3
55°	131.2	131.4	131.0	131.2
57.5°	118.2	117.4	118.0	117.6
60°	104.0	102.4	102.0	101.2
62.5°	88.0	87.0	85.5	86.4
65°	74.2	73.4	72.8	73.6
67.5°	63.1	62.7	62.7	62.3
70°	54.7	54.1	54.1	53.7
72.5°	46.1	45.6	45.7	45.6
75°	35.4	34.5	34.5	34.7
77.5°	27.6	27.4	27.8	27.3
80°	21.6	21.4	21.2	21.8
82.5°	15.6	15.6	15.6	16.4
85°	10.1	9.7	10.1	9.7
87.5°	4.5	4.3	4.1	4.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)