

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: P243267

Luminaire Tested: **S122RDR-H290D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243267  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDR-H290D930-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 879.0 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct

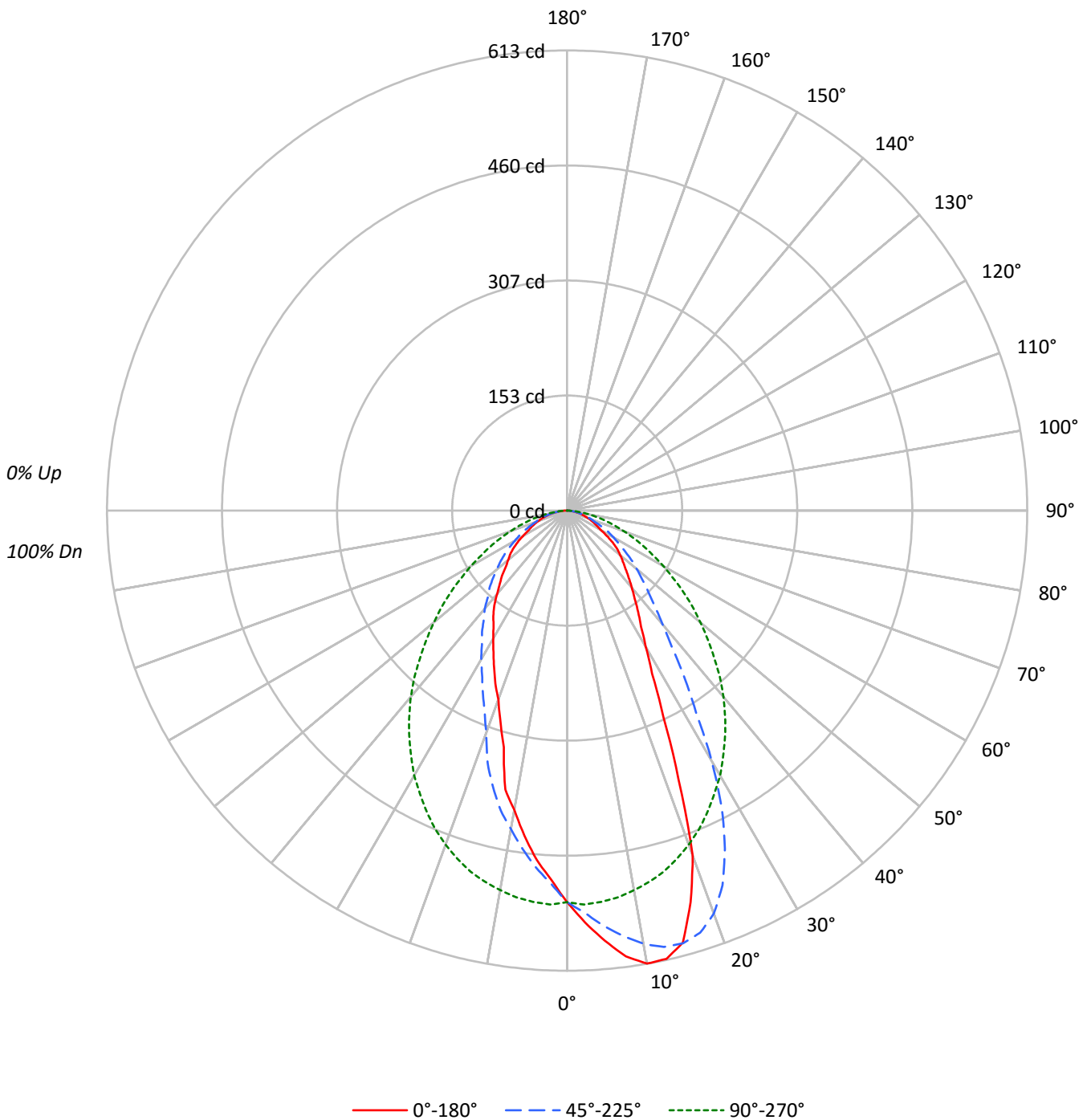
Input Watts (W): 11.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	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	100
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	9933	9933	9933
5°	10996	10002	8927
10°	11851	9932	7829
15°	11745	9816	6435
20°	9908	9600	5430
25°	6370	9304	4836
30°	4601	8961	4331
35°	3834	8529	3983
40°	3327	8054	3608
45°	2969	7451	3300
50°	2741	6863	3034
55°	2461	6270	2889
60°	1962	5642	2602
65°	1798	5070	2398
70°	1654	4478	2283
75°	1509	3915	2164
80°	1305	3258	2018
85°	1049	2601	1858



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.4	5.6
10°-20°	135.1	15.4
20°-30°	170.3	19.4
30°-40°	163.5	18.6
40°-50°	140.8	16.0
50°-60°	107.6	12.2
60°-70°	68.5	7.8
70°-80°	34.7	4.0
80°-90°	9.2	1.0
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°	354.7	40.4
0°-40°	518.2	59.0
0°-60°	766.6	87.2
0°-90°	879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	879.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	522	522	522	522	522	
5°	575	555	523	477	467	56
15°	596	597	498	381	326	162
25°	303	497	443	266	230	145
35°	165	273	367	198	171	104
45°	110	153	277	146	122	86
55°	74	93	189	102	87	65
65°	40	51	112	62	53	40
75°	20	23	53	32	29	22
85°	5	6	12	9	8	6
90°	0	0	0	0	0	



TEST NUMBER: P243267

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5
2.5°	549.2	549.9	550.2	549.4	547.5	547.7	545.9	543.0	539.5	536.2	538.1
5°	575.1	576.0	575.8	574.3	572.4	570.7	567.8	563.7	559.4	555.0	554.1
7.5°	599.0	600.9	600.4	597.5	596.1	593.7	588.8	584.2	577.7	571.4	568.8
10°	612.7	614.2	613.4	612.7	611.1	608.7	604.3	599.9	592.7	586.1	582.3
12.5°	611.6	613.0	613.7	614.4	613.9	613.0	611.1	607.4	601.6	595.4	590.7
15°	595.6	593.4	591.9	596.1	597.7	603.5	604.8	605.3	601.4	596.8	595.6
17.5°	546.8	547.5	559.3	557.4	559.9	574.1	579.7	587.4	590.7	589.6	591.7
20°	488.8	480.8	486.6	495.1	503.1	523.8	537.4	549.5	563.5	571.4	578.9
22.5°	387.7	387.9	401.9	415.9	434.0	456.3	477.2	500.4	525.3	540.5	558.1
25°	303.1	311.3	317.4	323.6	349.9	371.4	406.0	434.2	468.5	497.3	526.8
27.5°	245.1	253.6	254.6	268.4	284.0	301.4	324.1	368.5	403.6	445.9	482.5
30°	209.2	210.9	214.5	218.1	229.5	245.8	270.2	298.0	337.1	385.4	434.3
32.5°	183.3	182.9	186.5	192.2	198.5	209.4	223.2	246.3	281.6	320.0	377.2
35°	164.9	164.3	166.9	169.0	172.7	181.6	194.0	209.2	234.7	272.9	317.3
37.5°	147.5	148.5	150.0	152.2	157.2	162.8	171.2	183.8	203.9	229.2	271.7
40°	133.8	135.0	136.7	138.2	142.0	146.6	152.2	162.3	175.8	197.8	230.4
42.5°	121.5	122.0	123.4	125.6	128.3	132.4	137.9	145.6	156.8	172.2	200.7
45°	110.2	110.2	111.8	113.8	115.5	119.5	123.7	131.1	139.8	152.9	173.2
47.5°	100.7	100.9	101.7	102.1	103.9	107.5	112.1	117.9	125.1	135.2	154.1
50°	92.5	93.2	93.5	94.0	94.7	96.6	99.8	104.3	112.1	121.0	133.6
52.5°	84.0	84.8	85.5	86.5	87.5	87.7	90.1	93.0	98.5	107.7	117.9
55°	74.1	74.7	76.1	77.0	78.3	79.5	81.4	83.5	87.0	93.2	103.8
57.5°	62.8	63.0	64.3	65.2	67.9	70.7	72.4	74.6	77.1	81.4	89.4
60°	51.5	52.1	52.2	52.9	55.3	58.2	61.6	65.0	67.8	71.5	77.1
62.5°	45.4	45.6	46.1	46.8	46.9	48.3	49.3	53.4	58.2	61.9	65.7
65°	39.9	40.1	40.1	40.6	41.3	42.0	42.5	44.0	46.1	51.4	56.0
67.5°	34.8	34.6	35.0	35.5	35.7	36.2	37.0	37.9	39.3	40.8	45.6
70°	29.7	29.7	29.5	30.0	30.5	30.7	31.2	32.1	32.9	34.3	35.8
72.5°	24.6	24.9	24.9	25.3	25.4	26.1	26.5	26.8	28.0	28.7	29.9
75°	20.5	20.3	20.8	20.6	21.0	21.2	21.7	22.2	22.5	23.2	24.2
77.5°	16.4	16.0	16.4	16.2	16.6	16.9	16.9	17.4	17.7	18.4	18.9
80°	11.9	11.9	12.1	12.5	12.5	12.6	13.0	12.8	13.5	13.7	14.2
82.5°	8.2	8.4	8.4	8.5	8.5	8.5	8.9	8.9	9.0	9.4	9.6
85°	4.8	4.6	4.8	4.8	4.8	4.9	5.1	4.9	5.3	5.6	5.6
87.5°	1.4	1.4	1.5	1.7	1.7	1.9	1.9	1.9	2.0	2.0	2.2
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5
2.5°	538.1	537.2	535.0	533.0	529.2	526.1	525.1	525.3	520.7	515.9	514.5
5°	552.9	549.9	545.4	540.8	535.2	529.6	526.0	523.1	515.9	508.7	504.6
7.5°	565.2	560.3	553.8	546.5	539.1	530.8	525.0	519.5	509.6	499.9	494.6
10°	576.5	569.5	560.6	551.1	541.3	530.4	522.1	513.5	501.1	490.1	481.1
12.5°	587.2	576.2	567.1	553.3	542.5	527.7	516.2	506.4	491.7	478.0	468.0
15°	588.3	580.4	568.3	554.0	537.6	523.8	509.4	497.8	481.1	465.9	448.7
17.5°	588.1	582.0	569.3	554.6	535.0	516.9	501.4	486.2	467.1	449.4	434.5
20°	582.0	577.7	566.8	549.4	529.6	508.7	491.5	473.6	451.2	433.0	416.8
22.5°	567.4	568.5	559.9	544.4	523.1	499.9	479.9	459.2	436.4	415.4	394.9
25°	542.9	553.8	551.2	536.7	514.0	488.6	465.9	442.7	418.1	395.8	376.8
27.5°	512.3	532.8	537.2	526.0	504.3	475.8	450.0	424.8	399.7	375.6	356.2
30°	476.1	506.7	518.0	511.8	491.8	462.0	432.1	407.4	379.9	354.3	333.8
32.5°	430.6	473.4	493.2	495.1	478.7	446.6	413.5	386.9	358.7	334.5	312.5
35°	379.7	432.3	464.5	473.2	461.5	429.7	394.9	366.8	336.7	312.3	290.1
37.5°	328.5	390.3	432.6	449.5	441.7	411.0	374.1	345.6	315.9	291.0	270.2
40°	281.4	340.1	395.1	421.5	419.1	390.6	353.4	323.9	293.7	270.7	247.8
42.5°	239.3	295.9	356.3	391.8	393.7	368.8	330.7	301.0	272.0	249.2	225.3
45°	206.0	255.8	315.7	358.0	366.2	345.8	307.2	276.6	250.2	228.7	204.8
47.5°	179.4	218.1	273.7	323.4	337.9	320.0	283.1	254.1	229.2	210.8	188.2
50°	156.3	192.7	239.9	285.9	307.2	293.7	259.2	231.6	209.1	191.3	171.5
52.5°	135.8	164.0	205.0	249.0	277.7	265.4	236.0	210.6	189.4	172.9	156.3
55°	119.0	142.5	178.7	217.9	244.4	237.6	211.4	188.8	170.1	154.4	141.0
57.5°	101.5	121.3	150.5	185.5	211.4	210.4	188.9	167.1	152.4	137.6	127.8
60°	86.4	102.4	126.1	155.8	181.9	182.1	165.4	148.1	135.5	122.7	113.5
62.5°	72.9	85.7	106.3	130.2	151.0	156.3	143.9	128.8	118.6	108.7	100.9
65°	61.3	70.8	86.4	108.0	124.4	131.6	123.4	112.5	103.9	95.1	88.1
67.5°	50.5	57.5	68.9	86.0	102.4	107.7	104.3	95.9	89.8	82.4	77.1
70°	39.8	45.7	53.8	66.6	80.0	87.4	86.4	80.4	75.3	70.0	65.0
72.5°	31.6	35.0	41.1	50.3	61.1	69.3	69.6	66.6	62.3	57.9	54.6
75°	25.4	27.0	29.9	37.0	45.6	52.4	54.8	53.2	49.8	47.1	44.9
77.5°	19.6	21.0	22.9	26.3	32.9	38.2	41.1	41.3	39.3	36.9	35.2
80°	14.7	15.2	16.6	18.3	21.7	26.3	29.7	29.7	28.5	27.3	26.3
82.5°	10.1	10.6	11.3	12.1	13.8	16.6	19.6	20.1	19.5	19.1	17.7
85°	5.6	6.1	6.5	7.0	7.7	9.0	11.3	11.9	12.1	11.1	10.4
87.5°	2.2	2.2	2.4	2.6	2.7	3.2	4.1	5.1	5.1	4.6	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5	521.5
2.5°	512.8	510.4	507.4	504.6	500.9	497.1	496.5	497.8	498.2	496.5	497.0
5°	500.7	496.3	492.5	486.4	482.5	477.3	473.9	473.9	473.9	471.4	469.0
7.5°	488.1	482.1	474.9	469.1	461.1	454.5	451.2	449.7	446.6	444.1	441.2
10°	473.4	465.1	456.2	447.1	440.1	430.9	425.5	422.0	416.8	414.5	410.3
12.5°	456.2	447.8	437.1	422.4	420.3	409.1	401.4	395.1	388.6	383.3	381.4
15°	442.4	427.8	413.5	403.1	387.9	381.3	370.0	369.0	363.7	348.1	336.0
17.5°	420.0	407.0	391.2	379.6	367.4	352.6	340.6	328.9	317.6	306.7	306.3
20°	400.2	385.0	370.0	357.4	336.2	315.0	307.7	297.0	290.3	281.6	279.0
22.5°	378.5	362.7	343.9	325.5	300.7	287.4	279.4	270.8	264.2	260.3	256.3
25°	356.7	340.8	315.9	293.2	276.3	265.9	259.1	249.8	245.1	241.7	236.5
27.5°	335.3	315.2	288.9	270.8	257.2	245.4	239.3	231.8	226.5	222.0	218.8
30°	314.2	286.5	264.2	250.2	236.2	228.9	220.8	215.2	211.3	207.2	201.9
32.5°	291.0	262.0	247.5	230.2	222.0	211.4	205.6	199.8	194.7	191.8	189.9
35°	264.0	240.6	227.7	215.0	204.6	197.6	189.4	185.8	183.1	177.5	175.1
37.5°	241.1	224.2	210.6	199.3	189.8	182.3	178.5	172.4	168.4	166.6	164.0
40°	222.2	207.2	195.4	184.0	176.0	170.5	163.8	160.6	155.5	153.6	151.5
42.5°	205.8	192.0	179.7	171.0	164.0	156.5	153.1	147.6	145.4	140.8	139.1
45°	189.3	177.0	166.2	157.7	151.0	146.4	140.3	136.9	132.9	130.6	125.9
47.5°	172.7	161.8	152.9	145.7	139.9	134.3	129.2	126.3	121.3	118.8	116.4
50°	159.9	149.3	141.0	133.8	127.8	122.2	119.0	114.2	109.7	106.8	106.0
52.5°	144.7	135.5	127.8	122.4	116.4	112.3	107.9	102.6	100.3	97.4	96.8
55°	131.2	123.7	117.2	111.4	106.3	101.7	96.6	92.8	91.1	89.8	88.7
57.5°	118.6	111.4	105.5	100.2	95.7	91.0	86.7	84.5	82.9	81.4	80.4
60°	106.2	99.7	94.2	89.8	85.2	80.6	77.5	75.6	74.4	72.2	71.5
62.5°	95.1	89.1	83.5	79.4	75.1	71.5	68.9	66.4	64.5	62.8	59.2
65°	82.9	77.7	73.4	69.3	65.2	62.5	59.6	56.7	54.3	54.3	54.3
67.5°	72.2	67.6	63.1	59.6	56.0	52.7	49.8	49.7	48.8	48.5	48.0
70°	61.3	58.0	53.9	50.0	46.4	44.9	44.4	43.5	42.5	42.3	41.6
72.5°	51.4	47.6	43.9	40.4	39.8	39.1	38.1	37.2	36.5	36.0	35.7
75°	42.0	38.2	35.2	34.3	33.4	32.3	31.4	30.7	30.4	30.4	30.2
77.5°	32.1	29.9	28.5	27.1	26.5	25.8	25.3	24.9	24.4	24.6	24.2
80°	23.6	22.9	21.7	20.8	20.5	19.8	19.5	19.3	18.9	18.9	18.8
82.5°	16.9	15.7	15.2	14.7	14.3	14.0	14.2	14.0	13.8	13.7	13.8
85°	9.7	9.6	9.2	9.2	9.2	9.0	9.0	9.0	8.9	8.7	8.7
87.5°	4.3	4.4	4.4	4.1	4.6	4.6	4.4	4.4	4.3	4.6	4.3
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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CATALOG NUMBER: S122RDR-H290D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	521.5	521.5	521.5	521.5
2.5°	494.7	494.6	493.6	491.8
5°	468.0	467.3	465.6	466.9
7.5°	439.3	437.4	435.7	436.6
10°	408.6	407.9	406.9	404.8
12.5°	374.6	377.3	374.4	380.9
15°	324.3	336.4	321.2	326.3
17.5°	299.2	299.3	297.3	294.9
20°	275.6	269.6	271.9	267.9
22.5°	252.9	251.6	250.9	249.5
25°	232.6	230.1	229.2	230.1
27.5°	217.6	216.4	213.2	212.6
30°	198.8	198.3	197.3	196.9
32.5°	187.0	184.8	184.3	182.3
35°	173.9	172.7	171.9	171.3
37.5°	160.8	160.1	158.5	159.4
40°	150.0	146.6	145.2	145.1
42.5°	138.2	136.4	133.6	132.8
45°	124.6	123.7	122.9	122.5
47.5°	112.6	112.1	111.1	110.6
50°	104.1	102.7	102.6	102.4
52.5°	95.9	95.4	94.9	95.6
55°	88.2	87.5	87.0	87.0
57.5°	79.9	78.7	77.7	77.8
60°	70.1	69.5	68.6	68.3
62.5°	58.9	58.9	58.7	58.7
65°	53.6	53.2	53.1	53.2
67.5°	47.8	47.4	46.9	47.1
70°	41.1	41.0	41.1	41.0
72.5°	35.2	35.0	35.2	35.5
75°	29.7	29.5	29.4	29.4
77.5°	24.1	23.9	23.6	23.9
80°	18.8	18.6	18.4	18.4
82.5°	13.3	13.5	13.3	13.3
85°	8.7	8.9	8.7	8.5
87.5°	4.4	4.6	4.3	4.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)