

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: P242387

Luminaire Tested: **S122RDR-S290D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242387
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S290D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 860.1 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

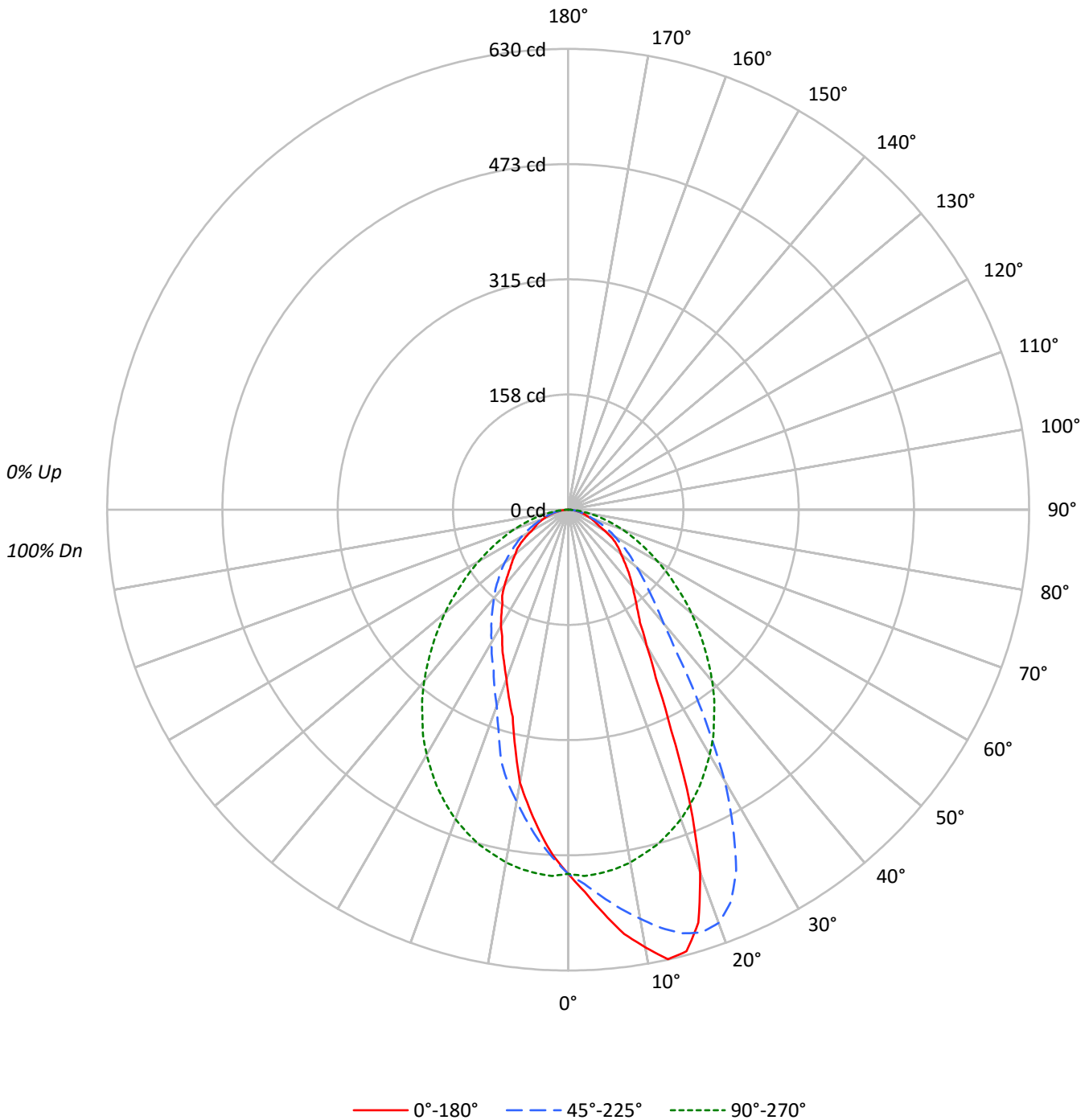
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P242387

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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	111	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	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	9482	9482	9482
5°	10589	9541	8459
10°	11748	9473	7332
15°	12325	9335	5778
20°	10686	9130	4999
25°	7009	8848	4464
30°	4718	8505	4040
35°	3820	8076	3644
40°	3397	7609	3372
45°	3074	7058	3009
50°	2797	6513	2788
55°	2630	5911	2597
60°	2202	5356	2175
65°	1857	4863	2105
70°	1715	4344	1983
75°	1604	3783	1833
80°	1481	3115	1634
85°	1355	2448	1442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.2	5.5
10°-20°	131.8	15.3
20°-30°	169.6	19.7
30°-40°	160.9	18.7
40°-50°	137.9	16.0
50°-60°	105.0	12.2
60°-70°	66.2	7.7
70°-80°	33.1	3.8
80°-90°	8.5	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°	348.6	40.5
0°-40°	509.5	59.2
0°-60°	752.4	87.5
0°-90°	860.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	860.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	498	498	498	498	498	
5°	554	531	499	455	442	55
15°	625	600	473	354	293	170
25°	334	543	421	241	212	157
35°	164	295	347	183	157	105
45°	114	156	262	135	112	88
55°	79	97	178	92	78	70
65°	41	55	108	55	47	42
75°	22	24	51	28	25	23
85°	6	6	11	7	7	7
90°	0	0	0	0	0	



TEST NUMBER: P242387

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8
2.5°	523.0	523.5	524.0	522.8	522.8	521.8	519.5	517.8	513.0	512.3	512.3
5°	553.8	553.4	554.1	551.9	548.8	548.1	544.8	540.5	536.0	531.0	529.9
7.5°	584.9	582.8	582.0	583.0	579.7	575.2	569.7	564.5	556.7	550.3	546.4
10°	607.4	613.1	609.7	603.6	604.8	596.7	592.4	584.9	578.7	567.8	565.4
12.5°	629.5	630.9	630.4	627.6	625.4	620.4	614.2	607.9	595.1	585.6	575.6
15°	625.0	628.3	629.2	628.2	629.0	628.7	625.6	620.2	610.2	599.5	590.1
17.5°	591.8	595.6	598.8	601.5	605.9	614.3	616.9	618.0	613.8	606.2	598.4
20°	527.2	523.4	539.3	547.4	554.3	571.6	586.5	592.2	601.4	601.2	599.5
22.5°	435.5	437.6	452.4	462.5	486.0	503.3	520.8	546.2	566.1	580.8	589.8
25°	333.5	340.0	355.1	368.2	390.7	422.9	452.1	486.0	518.0	543.2	567.3
27.5°	259.4	260.3	274.0	287.3	301.1	329.0	368.0	408.7	454.3	487.2	528.7
30°	214.5	213.4	218.4	225.9	237.3	257.7	285.4	325.1	370.6	427.4	477.9
32.5°	182.6	183.0	186.4	191.5	200.5	212.6	229.3	259.8	302.1	357.7	419.1
35°	164.3	164.1	166.9	170.9	174.9	183.7	196.6	213.6	243.2	295.2	355.8
37.5°	149.1	149.9	151.2	153.8	158.6	163.8	171.9	183.8	206.3	238.7	293.0
40°	136.6	137.0	138.9	141.0	143.6	147.4	153.8	162.9	178.3	202.9	240.1
42.5°	125.2	125.6	126.8	128.7	130.6	134.4	139.4	147.0	158.8	176.6	205.6
45°	114.1	114.1	115.4	116.2	118.5	121.9	126.3	132.8	141.5	155.7	176.1
47.5°	103.4	103.4	104.3	105.8	107.4	110.2	114.7	120.2	126.4	138.0	156.2
50°	94.4	94.6	95.1	96.3	97.2	99.6	102.9	107.6	114.1	122.6	137.2
52.5°	87.2	87.0	87.7	88.0	88.6	90.1	92.4	96.3	102.0	109.1	120.5
55°	79.2	78.5	79.6	80.4	80.9	81.6	83.0	85.6	90.6	96.9	105.8
57.5°	69.9	69.5	70.0	70.9	72.5	74.2	75.1	76.8	79.4	84.2	93.7
60°	57.8	57.8	59.3	59.8	61.7	64.2	66.6	68.0	70.6	73.5	80.1
62.5°	47.0	47.2	47.7	48.3	49.1	52.2	55.9	59.3	61.7	64.5	68.3
65°	41.2	41.5	41.5	41.9	42.5	43.2	44.6	47.0	51.4	55.3	58.6
67.5°	36.0	36.0	36.1	36.5	36.7	37.5	38.0	39.3	40.1	44.6	49.1
70°	30.8	31.3	31.1	31.5	31.7	32.0	32.7	33.2	34.8	35.6	38.0
72.5°	25.9	26.3	26.3	26.5	27.0	27.0	27.5	28.0	28.9	29.6	30.6
75°	21.8	21.6	21.8	22.1	22.3	22.5	22.5	23.2	23.7	24.4	25.3
77.5°	17.6	17.8	17.8	17.8	17.8	18.2	18.2	18.5	19.0	19.4	19.9
80°	13.5	13.7	13.5	13.7	13.8	14.0	13.8	14.0	14.5	14.9	14.9
82.5°	9.7	9.7	9.9	9.9	9.9	9.9	10.2	10.2	10.6	10.4	10.6
85°	6.2	6.1	6.1	6.1	6.2	6.4	6.2	6.2	6.4	6.4	6.4
87.5°	2.8	2.9	2.9	2.9	2.9	2.9	2.9	3.1	2.9	3.1	2.9
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8
2.5°	512.6	511.2	510.0	506.9	505.4	501.9	501.4	501.2	496.7	492.4	491.2
5°	527.2	524.4	520.2	515.4	510.4	505.2	501.7	499.0	492.0	485.5	481.7
7.5°	541.5	536.5	529.9	521.6	514.5	506.2	500.5	495.3	485.8	477.2	471.5
10°	557.9	548.3	538.7	526.1	516.3	506.6	497.6	489.8	478.7	466.3	457.5
12.5°	568.1	557.3	543.2	531.0	517.5	504.5	491.7	481.2	467.7	454.7	443.8
15°	577.1	565.7	549.8	532.2	515.7	499.7	485.8	473.4	456.4	441.0	428.2
17.5°	585.4	569.7	553.3	532.9	514.7	495.2	477.7	462.1	443.6	425.5	410.9
20°	589.1	573.5	553.8	533.4	510.9	486.9	467.7	450.4	430.1	409.9	392.6
22.5°	586.8	575.6	553.1	527.7	504.5	479.1	456.8	436.0	413.0	392.3	371.5
25°	575.1	570.9	550.2	523.5	497.2	468.0	442.9	421.0	395.4	373.2	351.4
27.5°	553.4	559.5	544.8	515.9	487.6	456.1	428.7	404.0	377.9	353.2	331.4
30°	519.2	539.8	534.2	508.0	475.3	444.5	412.8	386.7	358.4	332.8	311.3
32.5°	472.3	509.7	517.8	496.9	462.8	428.2	394.7	368.7	338.8	311.5	290.7
35°	422.0	472.9	496.2	482.2	448.3	411.8	377.6	347.3	317.5	290.9	270.2
37.5°	362.3	430.1	466.1	464.5	432.2	395.0	357.8	327.9	297.3	271.0	249.4
40°	304.6	379.6	430.3	441.5	415.3	374.3	336.6	306.0	276.2	250.6	224.8
42.5°	252.7	327.4	392.6	414.2	394.7	354.0	316.2	283.8	255.1	231.2	204.8
45°	212.7	278.1	346.8	381.7	370.1	332.4	292.5	262.0	234.9	213.9	188.7
47.5°	184.2	231.8	300.8	346.4	345.0	309.2	269.5	240.2	214.6	195.3	173.8
50°	160.5	200.6	256.8	310.4	314.9	286.1	248.7	219.8	196.3	175.7	159.3
52.5°	139.2	170.5	219.6	270.5	285.4	261.3	225.4	199.2	176.6	158.1	144.6
55°	121.2	146.8	185.2	233.3	252.7	235.0	202.9	178.0	159.5	143.6	131.4
57.5°	105.5	125.6	157.6	197.9	219.8	207.9	180.4	159.8	143.4	128.5	118.8
60°	90.8	106.5	132.7	165.0	189.9	182.1	159.5	140.6	127.1	114.7	105.7
62.5°	77.0	89.9	111.4	136.1	158.4	156.3	138.9	123.8	112.4	101.3	94.1
65°	64.2	74.0	91.5	112.1	130.4	132.0	118.6	107.9	97.4	88.4	81.6
67.5°	53.1	59.8	73.0	91.1	105.2	110.0	101.0	92.4	83.7	76.4	70.4
70°	43.1	48.3	57.2	71.3	83.9	89.1	84.4	78.0	70.7	65.0	60.0
72.5°	32.9	37.9	43.9	53.3	63.6	69.4	68.5	64.3	58.8	54.3	49.6
75°	26.3	27.8	32.3	39.3	47.7	52.6	53.8	51.4	46.7	43.1	40.3
77.5°	20.4	21.4	23.9	28.0	33.9	38.2	40.1	39.8	36.3	33.9	31.3
80°	15.6	16.1	17.1	18.7	22.8	27.2	28.4	28.4	26.1	25.3	22.7
82.5°	10.9	11.2	11.8	12.5	13.8	17.5	18.9	19.2	18.0	16.8	14.9
85°	6.7	6.6	6.9	7.4	7.8	8.8	10.9	11.2	10.9	9.5	9.0
87.5°	2.9	3.1	3.1	2.9	3.1	3.3	4.2	5.0	4.3	3.8	3.5
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8	497.8
2.5°	488.9	487.7	485.5	482.0	479.9	476.3	473.9	475.3	475.6	475.3	474.9
5°	477.5	473.9	468.9	464.0	459.5	454.7	451.9	450.7	448.3	446.9	446.2
7.5°	464.5	459.2	452.1	444.3	437.0	430.1	427.0	424.6	420.1	417.7	415.4
10°	449.7	439.8	432.7	421.7	414.9	405.1	398.3	398.5	391.7	387.9	385.2
12.5°	433.2	422.2	409.2	399.5	389.5	382.1	373.6	369.4	362.2	358.5	349.9
15°	414.7	402.1	389.7	376.2	366.7	354.4	342.6	328.3	316.7	306.6	303.9
17.5°	395.0	379.5	367.2	353.3	338.5	316.2	301.6	292.8	285.9	280.7	276.6
20°	374.6	358.7	345.4	321.5	299.6	285.5	275.5	269.1	261.8	256.1	253.0
22.5°	353.2	336.4	317.0	289.7	273.8	263.2	254.6	247.0	242.7	238.5	235.7
25°	333.1	314.9	285.0	266.7	252.9	241.1	234.9	230.4	225.2	219.1	216.4
27.5°	312.2	283.3	260.6	247.3	233.1	225.7	220.3	212.9	208.2	206.0	202.9
30°	288.1	259.3	242.5	227.6	218.3	209.8	203.2	199.4	194.9	190.2	188.3
32.5°	261.3	239.7	223.8	212.0	202.5	195.6	190.8	184.0	181.1	178.7	174.2
35°	240.1	222.6	207.9	197.9	188.9	183.0	176.9	173.3	167.4	165.0	163.4
37.5°	220.7	205.5	194.4	183.3	176.4	169.5	166.0	160.0	157.7	153.9	150.8
40°	204.8	189.9	179.4	170.7	162.7	157.9	153.2	148.6	144.8	143.2	139.2
42.5°	188.5	177.1	166.6	156.9	152.2	147.0	140.8	137.7	133.7	130.9	128.8
45°	173.8	163.1	154.1	146.3	140.4	135.1	131.3	125.6	123.3	118.3	116.2
47.5°	160.8	150.5	141.8	134.2	128.3	125.2	119.7	114.7	111.6	108.1	105.2
50°	146.8	138.5	130.2	123.7	118.5	113.5	107.7	105.5	100.0	98.4	96.9
52.5°	134.0	126.3	118.8	112.4	107.2	102.4	97.5	94.4	91.1	89.6	88.6
55°	122.3	114.7	107.4	101.7	96.5	91.5	88.4	84.7	83.0	81.8	80.4
57.5°	110.2	103.3	97.5	91.7	86.5	82.3	78.5	76.4	74.7	73.3	71.4
60°	98.8	92.2	87.2	81.8	76.4	73.2	70.4	67.8	65.7	63.3	62.6
62.5°	86.6	81.1	76.6	71.4	66.9	64.0	61.4	59.0	56.4	52.6	51.5
65°	75.8	71.3	66.4	62.1	57.9	55.0	51.2	48.4	47.4	47.0	46.9
67.5°	65.7	61.4	57.2	52.8	48.9	45.7	43.4	43.1	42.4	42.2	41.7
70°	55.7	51.7	47.6	43.4	39.8	39.3	38.6	37.9	37.0	36.7	36.3
72.5°	46.7	42.5	38.4	35.3	34.2	33.6	32.9	32.2	31.7	31.3	31.1
75°	37.2	33.4	30.6	29.4	28.5	28.0	27.0	26.5	26.1	25.6	25.4
77.5°	28.4	25.9	24.6	23.9	22.8	22.3	21.6	21.1	20.6	20.6	20.2
80°	20.4	19.4	18.5	17.5	17.1	16.4	16.3	15.7	15.9	15.4	15.4
82.5°	14.7	13.3	12.6	12.3	11.9	11.4	11.2	11.1	11.1	10.7	10.7
85°	8.1	7.8	7.4	7.1	7.1	6.6	6.7	6.6	6.6	6.2	6.1
87.5°	3.3	3.1	2.8	2.8	2.8	2.6	2.6	2.4	2.4	2.4	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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CATALOG NUMBER: S122RDR-S290D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	497.8	497.8	497.8	497.8
2.5°	473.0	473.4	472.9	473.2
5°	445.4	443.3	442.9	442.4
7.5°	412.7	412.5	411.5	410.2
10°	381.4	380.5	380.3	379.1
12.5°	344.7	337.9	337.3	333.8
15°	299.7	298.7	295.2	293.0
17.5°	274.6	271.2	270.0	269.5
20°	250.6	247.5	247.0	246.6
22.5°	234.0	230.7	229.2	228.0
25°	214.6	213.4	212.7	212.4
27.5°	199.4	196.3	196.0	195.1
30°	186.8	185.9	184.7	183.7
32.5°	171.9	171.2	170.2	169.8
35°	161.7	159.3	158.3	156.7
37.5°	150.5	149.1	147.4	148.0
40°	137.0	136.1	135.8	135.6
42.5°	126.3	123.5	122.5	122.5
45°	115.4	113.1	111.6	111.7
47.5°	103.6	103.8	102.7	103.1
50°	95.6	94.6	93.9	94.1
52.5°	88.0	87.2	86.6	87.5
55°	79.6	78.5	78.3	78.2
57.5°	70.4	69.9	69.0	68.5
60°	60.4	59.0	57.2	57.1
62.5°	51.2	51.2	51.2	51.2
65°	46.5	46.4	46.5	46.7
67.5°	41.7	41.3	41.0	41.2
70°	36.0	35.8	35.6	35.6
72.5°	30.4	30.4	30.3	30.1
75°	25.3	24.9	24.9	24.9
77.5°	20.2	20.1	19.9	19.7
80°	15.2	15.0	14.9	14.9
82.5°	10.7	10.6	10.6	10.4
85°	6.2	6.4	6.2	6.6
87.5°	2.2	2.1	2.2	2.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)