

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: P243419

Luminaire Tested: **S123RDR-H340D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-69)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-H340D927-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1000.6 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.22 / 1.4
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

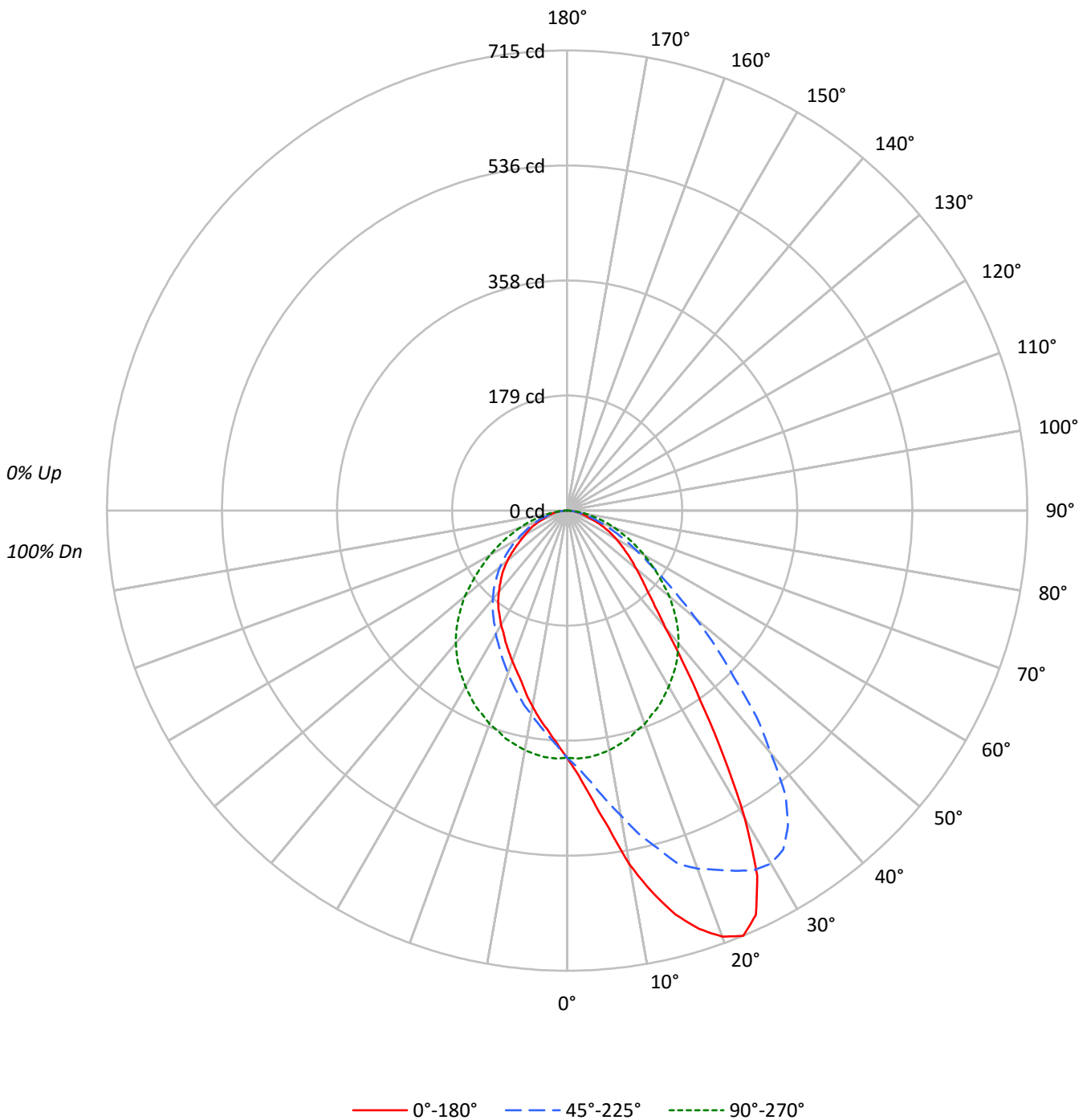
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89	87
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	68	76	71	67	74	70	66	64
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56
5	79	68	59	53	77	66	59	53	64	57	52	62	56	52	61	55	51	49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44
7	69	56	48	42	67	55	47	42	54	47	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	45	39	34	44	38	34	43	38	33	32
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4655	4655	4655
5°	5488	4681	4169
10°	6869	4653	3804
15°	8152	4607	3446
20°	9086	4551	3208
25°	9274	4495	3020
30°	7727	4419	2873
35°	5339	4358	2752
40°	3752	4258	2608
45°	3014	4107	2467
50°	2627	3911	2282
55°	2354	3620	2033
60°	2131	3345	1840
65°	1864	3080	1721
70°	1503	2775	1457
75°	1307	2417	1428
80°	1201	2059	1438
85°	1057	1655	1252



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	3.8
10°-20°	118.6	11.9
20°-30°	190.0	19.0
30°-40°	206.3	20.6
40°-50°	176.7	17.7
50°-60°	134.0	13.4
60°-70°	85.6	8.6
70°-80°	40.9	4.1
80°-90°	10.7	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°	346.3	34.6
0°-40°	552.6	55.2
0°-60°	863.3	86.3
0°-90°	1000.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1000.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	384	384	384	384	384	
5°	451	423	385	350	343	46
15°	650	543	367	295	275	184
25°	693	618	336	244	226	308
35°	361	598	294	200	186	232
45°	176	366	240	158	144	139
55°	111	179	171	113	96	100
65°	65	86	107	68	60	65
75°	28	34	52	32	30	30
85°	8	8	12	10	9	9
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°	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0
2.5°	411.5	412.0	411.2	411.0	410.9	408.2	407.4	406.1	401.4	400.3	399.4
5°	451.0	449.7	451.2	448.4	445.2	443.4	440.4	433.8	428.0	423.3	420.3
7.5°	497.8	498.3	496.8	494.1	487.8	485.2	477.0	469.1	461.4	451.8	444.7
10°	558.1	554.1	555.0	546.7	540.0	532.1	521.0	508.2	494.8	481.2	471.1
12.5°	606.2	609.0	607.0	603.1	590.3	582.5	572.4	553.8	532.6	514.3	498.9
15°	649.6	645.8	646.3	636.7	632.1	624.9	608.2	589.8	576.0	543.0	524.8
17.5°	681.5	681.1	680.7	672.5	666.9	652.0	634.9	616.0	598.7	575.9	553.0
20°	704.4	706.8	706.2	699.6	689.6	675.2	664.9	641.4	613.0	592.1	564.1
22.5°	715.3	715.5	715.8	712.7	706.0	696.7	682.1	663.2	638.0	603.9	572.7
25°	693.4	694.2	698.6	701.2	703.0	698.9	691.3	674.2	652.5	617.6	585.3
27.5°	639.7	642.3	647.2	663.1	669.5	678.5	681.6	674.8	658.8	629.7	592.9
30°	552.1	559.6	564.3	582.3	607.7	631.6	642.8	654.0	652.5	633.2	595.9
32.5°	452.0	456.8	470.2	489.6	509.7	544.7	583.8	610.7	625.8	624.8	598.4
35°	360.8	367.8	379.2	394.0	421.7	458.0	502.2	544.5	582.3	598.1	588.6
37.5°	292.8	293.5	304.3	325.2	342.4	374.4	414.4	466.6	516.2	557.3	566.4
40°	237.1	241.8	247.4	260.5	280.9	311.6	338.1	389.5	440.9	492.5	529.3
42.5°	202.0	202.0	208.3	216.5	230.1	248.5	280.2	326.8	373.1	436.4	477.9
45°	175.8	177.4	180.2	185.5	195.2	209.4	234.0	265.6	312.9	366.1	428.5
47.5°	156.9	156.7	159.2	162.3	169.8	180.6	195.0	220.7	255.7	313.0	368.1
50°	139.3	139.9	141.8	144.4	149.4	157.0	166.1	185.5	215.1	260.5	318.2
52.5°	125.7	125.5	127.0	128.7	132.5	136.8	144.9	159.3	179.7	215.9	263.8
55°	111.4	112.1	113.9	114.9	118.1	120.9	127.7	135.8	152.2	179.4	223.0
57.5°	99.2	100.0	101.0	102.0	104.1	106.9	112.6	117.6	129.5	149.1	183.9
60°	87.9	87.5	88.7	90.4	91.5	94.0	97.2	102.3	110.6	124.5	150.1
62.5°	76.6	76.8	76.9	77.9	80.1	82.2	85.1	88.9	93.8	104.1	122.2
65°	65.0	65.2	65.5	66.5	68.6	70.0	73.0	76.3	80.3	86.4	99.0
67.5°	54.7	55.4	55.4	56.2	57.0	58.4	60.5	63.0	66.3	70.8	78.9
70°	42.4	42.3	43.1	44.8	45.6	47.9	49.4	51.1	54.1	56.9	63.8
72.5°	34.2	34.2	34.2	34.8	35.0	35.5	36.5	40.0	42.3	45.1	48.9
75°	27.9	28.0	28.0	28.2	28.4	28.9	29.2	30.2	30.8	33.8	36.1
77.5°	22.2	22.4	22.4	22.6	22.7	22.9	23.5	23.5	24.0	24.7	25.7
80°	17.2	17.1	17.1	17.2	17.2	17.7	17.7	18.1	18.2	18.6	19.1
82.5°	12.3	12.1	12.3	12.1	12.3	12.4	12.8	12.6	12.9	13.3	13.4
85°	7.6	7.8	7.8	8.1	8.0	7.8	8.0	8.0	8.0	8.0	8.3
87.5°	3.3	3.6	3.6	3.5	3.6	3.6	3.3	3.6	3.6	3.6	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0
2.5°	398.9	398.3	395.8	393.5	390.0	388.5	386.5	385.7	383.0	379.4	377.7
5°	417.5	412.5	407.7	401.9	397.1	391.5	388.3	384.7	379.0	373.9	370.3
7.5°	437.2	429.9	421.0	411.4	402.8	394.6	387.7	381.9	374.6	367.4	361.8
10°	459.0	446.5	432.1	419.8	407.4	395.6	386.8	378.0	368.6	359.6	352.8
12.5°	482.3	464.8	447.4	429.0	410.4	396.8	383.7	372.4	361.8	352.3	344.2
15°	506.5	482.5	460.3	439.6	413.7	395.5	381.0	367.1	353.8	342.2	334.3
17.5°	523.8	496.3	468.2	438.9	416.7	394.1	376.2	358.6	346.4	334.4	323.7
20°	539.7	508.5	475.2	447.9	416.8	389.3	369.8	352.8	335.8	323.0	313.9
22.5°	546.5	518.3	484.7	446.7	415.7	387.5	362.3	343.2	328.0	314.0	302.1
25°	547.8	516.3	481.8	445.2	411.2	380.7	355.2	336.1	316.2	301.8	292.5
27.5°	553.6	510.5	476.7	440.2	405.7	373.9	347.0	325.8	307.2	291.8	279.9
30°	555.1	508.0	465.8	430.9	395.5	364.3	337.1	315.7	295.5	279.7	268.9
32.5°	555.8	504.7	454.3	416.2	382.4	353.0	328.1	304.9	285.7	269.1	258.0
35°	553.5	500.1	440.6	399.4	366.9	338.1	315.0	294.5	273.1	257.5	245.7
37.5°	544.4	492.8	432.8	379.9	348.9	321.7	302.1	281.9	262.1	245.2	233.1
40°	527.1	482.2	418.2	363.5	328.3	303.9	285.7	269.1	249.2	233.0	221.0
42.5°	499.6	467.8	404.7	344.9	307.9	284.9	269.6	255.3	237.4	222.0	208.9
45°	458.8	447.5	386.8	326.0	285.7	264.0	250.7	239.6	223.3	209.3	197.1
47.5°	414.7	417.2	368.8	306.7	265.5	244.7	233.1	223.3	211.1	196.0	184.9
50°	363.8	377.4	343.4	287.3	245.2	224.8	213.4	207.4	196.0	183.4	172.9
52.5°	317.2	338.7	317.7	266.1	225.3	205.3	194.7	188.7	181.1	170.6	160.0
55°	268.9	296.3	281.0	243.2	205.1	184.9	175.9	171.3	165.0	156.9	147.2
57.5°	229.0	258.2	248.5	219.2	185.4	167.1	159.2	153.9	150.1	142.6	134.8
60°	189.9	216.9	213.1	191.5	165.8	148.4	142.3	138.0	134.8	129.3	121.7
62.5°	153.2	179.4	181.7	164.8	146.7	131.0	125.4	122.4	119.9	115.6	108.6
65°	121.5	144.6	149.4	136.5	126.7	114.7	109.3	107.4	105.6	100.6	95.3
67.5°	95.2	113.2	119.5	112.3	105.3	98.3	94.0	91.5	90.2	87.2	83.6
70°	72.8	88.4	93.7	90.5	85.9	83.2	79.9	78.3	76.9	73.1	71.1
72.5°	54.6	65.2	71.8	70.8	69.8	68.0	66.0	65.5	63.5	61.0	59.2
75°	40.0	46.1	52.1	54.2	53.9	54.6	52.4	51.6	50.4	48.6	47.1
77.5°	28.7	32.3	36.5	39.1	40.5	40.6	40.6	40.1	39.3	38.0	36.8
80°	19.9	20.7	24.5	27.0	28.4	29.3	29.3	29.5	28.7	28.2	27.4
82.5°	13.8	14.3	15.1	17.1	18.7	19.9	20.1	19.9	19.6	19.4	18.2
85°	8.6	8.5	8.5	9.0	10.3	11.4	11.6	11.9	11.8	11.6	10.4
87.5°	3.6	3.6	3.8	3.6	4.1	4.3	4.6	5.5	5.3	4.5	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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0	384.0
2.5°	376.7	374.6	372.6	370.4	367.8	365.3	364.9	364.6	365.4	363.8	363.1
5°	367.4	363.3	360.1	356.2	353.3	349.7	347.7	347.2	347.0	346.0	344.7
7.5°	357.3	352.8	348.4	343.9	339.2	335.4	333.3	332.1	331.1	329.5	328.1
10°	347.9	342.2	337.4	331.3	326.3	321.3	319.4	317.7	316.7	314.4	312.6
12.5°	337.3	330.1	324.8	318.2	313.7	309.4	306.3	303.1	300.8	297.3	295.8
15°	328.0	320.5	311.6	307.6	301.3	294.8	291.3	291.3	286.5	283.7	281.9
17.5°	315.5	309.1	302.8	294.6	285.7	281.9	277.9	274.4	271.1	270.3	267.0
20°	304.6	297.0	290.5	281.7	273.6	269.1	264.5	260.7	258.2	255.8	254.0
22.5°	293.8	286.2	276.2	267.6	262.1	256.2	251.2	247.9	245.7	242.2	240.6
25°	282.5	273.4	264.5	256.0	249.2	244.1	238.9	237.1	233.3	231.5	229.1
27.5°	271.3	260.3	251.9	244.6	236.9	232.0	228.5	225.2	221.9	220.9	219.5
30°	258.7	248.5	240.4	233.3	226.0	221.7	217.5	214.6	211.7	209.6	208.1
32.5°	246.1	237.6	229.8	221.5	214.9	210.2	206.8	204.1	202.8	199.1	197.8
35°	234.5	225.8	217.5	209.7	204.4	200.0	196.8	194.3	191.5	189.2	187.9
37.5°	222.5	214.7	206.3	199.6	193.7	190.0	186.5	183.2	181.1	179.7	178.1
40°	210.9	202.6	196.2	188.9	183.6	179.4	175.8	173.3	170.6	169.5	167.3
42.5°	200.0	192.0	184.5	177.9	173.1	169.1	165.6	162.8	160.7	158.5	157.4
45°	187.4	180.4	173.6	167.0	162.5	158.2	154.4	151.9	148.9	147.1	146.4
47.5°	176.8	169.5	162.2	156.0	151.4	146.7	143.6	140.6	138.1	136.3	135.3
50°	164.2	157.4	151.4	145.2	140.8	135.8	132.0	129.2	126.3	125.0	123.4
52.5°	153.4	146.7	139.4	134.0	128.8	124.5	121.0	118.7	116.2	114.2	113.1
55°	139.9	133.5	127.7	121.9	116.7	113.2	110.4	106.5	104.3	102.3	99.2
57.5°	128.2	122.0	115.9	110.3	105.5	101.3	97.8	95.2	92.4	90.9	88.7
60°	115.7	109.3	103.6	99.3	94.0	89.5	87.2	84.1	81.7	79.4	78.8
62.5°	103.5	97.5	91.9	87.4	82.6	79.1	76.1	74.6	72.3	70.5	69.8
65°	90.7	85.7	80.4	75.4	72.5	68.5	66.8	64.3	63.0	62.2	62.0
67.5°	78.1	73.6	68.8	65.0	62.2	59.5	57.5	56.5	55.2	54.2	53.4
70°	66.7	62.3	58.2	55.0	52.9	50.9	49.6	47.8	46.4	45.1	43.3
72.5°	55.4	51.9	48.4	45.9	43.8	42.6	40.8	38.0	36.6	36.3	36.1
75°	44.9	41.1	38.6	37.3	35.3	32.5	31.3	31.0	30.8	30.5	30.5
77.5°	34.7	32.3	30.7	27.9	26.9	26.7	25.9	25.7	25.4	25.5	25.5
80°	25.2	23.9	21.9	21.1	20.7	20.9	20.6	20.7	20.4	20.6	20.2
82.5°	16.7	15.6	15.9	15.4	15.4	15.8	15.6	15.1	15.1	14.9	14.9
85°	9.9	9.8	10.1	10.1	9.9	9.5	9.8	9.6	9.1	9.3	9.3
87.5°	4.3	4.3	4.3	4.1	4.3	4.1	4.1	4.1	3.6	3.6	3.6
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: S123RDR-H340D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	384.0	384.0	384.0	384.0
2.5°	363.5	363.1	362.6	362.1
5°	344.7	343.2	343.1	342.6
7.5°	327.1	326.5	325.3	326.6
10°	311.1	311.6	310.4	309.1
12.5°	294.3	293.3	291.5	292.5
15°	279.6	277.9	276.9	274.6
17.5°	264.1	262.8	262.8	261.3
20°	250.7	249.4	249.7	248.7
22.5°	239.4	238.4	236.9	237.1
25°	228.8	227.3	225.7	225.8
27.5°	217.0	215.7	215.4	214.2
30°	206.6	205.4	205.3	205.3
32.5°	196.5	196.0	195.2	194.7
35°	187.7	187.0	185.7	186.0
37.5°	176.8	176.1	175.9	175.8
40°	166.5	166.0	164.6	164.8
42.5°	156.2	155.4	154.5	154.2
45°	145.1	144.9	143.6	143.9
47.5°	134.5	134.1	133.5	132.6
50°	122.7	122.5	122.0	121.0
52.5°	111.3	110.8	109.8	108.8
55°	98.3	96.8	97.0	96.2
57.5°	87.7	87.1	85.7	85.2
60°	77.4	76.8	76.6	75.9
62.5°	68.8	68.1	67.7	67.7
65°	61.0	60.2	60.0	60.0
67.5°	52.4	51.6	51.4	51.1
70°	41.6	41.5	41.1	41.1
72.5°	35.8	35.6	35.8	35.2
75°	30.5	30.3	30.3	30.5
77.5°	25.4	25.4	25.2	25.2
80°	20.1	20.2	20.1	20.6
82.5°	15.1	14.8	14.9	14.6
85°	9.3	9.3	9.0	9.0
87.5°	3.6	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0

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