

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: P243617

Luminaire Tested: **S124RDR-H575D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243617
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-H575D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1902.2 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

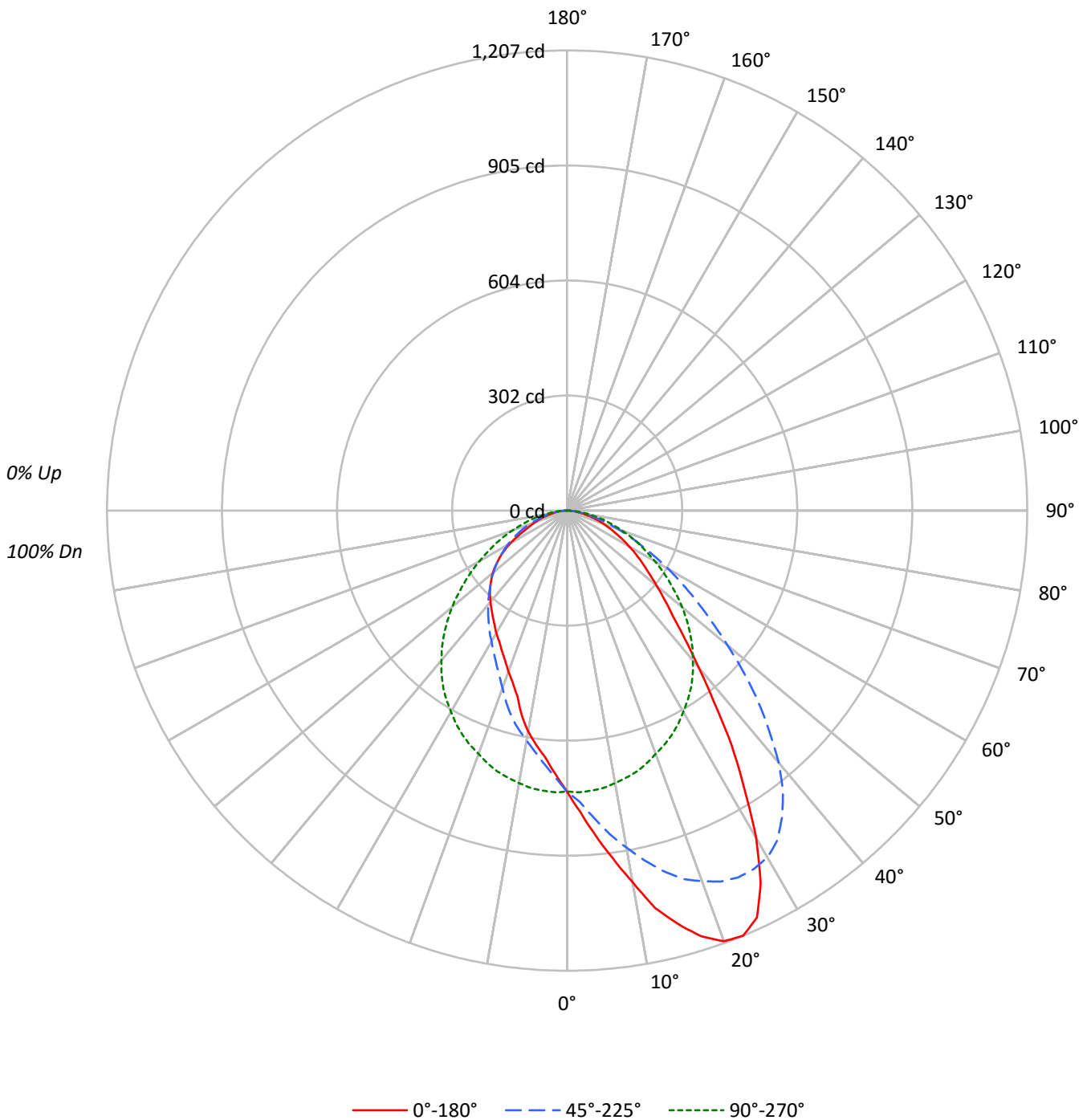
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44	42
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40	38
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6551	6551	6551
5°	7632	6579	5808
10°	8938	6551	5311
15°	10327	6518	4638
20°	11370	6426	4252
25°	11553	6367	3975
30°	10169	6254	3812
35°	8160	6148	3687
40°	6208	5952	3630
45°	4929	5734	3586
50°	4230	5450	3525
55°	3736	5097	3354
60°	3348	4731	3072
65°	2947	4371	2583
70°	2625	3969	2326
75°	2287	3606	2071
80°	1940	3102	1909
85°	1693	2662	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.5	3.8
10°-20°	216.9	11.4
20°-30°	338.5	17.8
30°-40°	377.4	19.8
40°-50°	339.3	17.8
50°-60°	268.1	14.1
60°-70°	178.0	9.4
70°-80°	89.3	4.7
80°-90°	23.2	1.2
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°	626.9	33.0
0°-40°	1004.3	52.8
0°-60°	1611.6	84.7
0°-90°	1902.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1902.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	737	737	737	737	737	
5°	855	809	737	669	651	86
15°	1122	979	708	561	504	319
25°	1178	1062	649	441	405	527
35°	752	982	567	358	340	467
45°	392	708	456	287	285	311
55°	241	416	329	217	216	217
65°	140	213	208	142	123	140
75°	67	84	105	70	60	71
85°	17	18	26	20	19	19
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°	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0
2.5°	791.6	788.7	788.4	784.7	784.4	780.7	779.5	776.4	770.0	765.2	765.4
5°	855.3	853.0	852.7	849.0	847.8	843.2	836.0	827.4	817.4	809.1	803.6
7.5°	920.7	924.7	920.4	920.4	912.1	906.7	892.6	885.4	868.2	856.1	843.5
10°	990.2	993.9	992.2	988.7	977.8	966.6	952.0	937.9	917.0	898.0	885.4
12.5°	1067.7	1056.5	1063.6	1053.0	1044.1	1026.3	1012.3	984.1	967.5	939.9	915.3
15°	1122.2	1117.9	1117.6	1110.4	1100.7	1081.2	1065.9	1036.7	1008.3	979.3	951.4
17.5°	1171.0	1171.6	1167.5	1156.1	1143.4	1124.5	1103.8	1077.7	1045.3	1013.1	980.1
20°	1202.0	1202.3	1199.4	1193.4	1179.6	1162.4	1141.1	1107.0	1070.2	1034.7	1001.7
22.5°	1206.6	1207.4	1206.6	1202.8	1193.4	1179.3	1159.8	1130.8	1093.8	1053.0	1013.7
25°	1177.9	1180.7	1181.0	1186.2	1181.3	1175.9	1161.5	1137.1	1103.0	1061.6	1018.9
27.5°	1099.2	1107.3	1114.7	1123.9	1132.2	1139.7	1140.8	1127.9	1098.7	1060.2	1019.4
30°	990.7	1000.2	1015.1	1024.9	1050.7	1067.1	1089.2	1094.1	1080.0	1050.4	1011.1
32.5°	864.5	874.5	880.2	912.4	949.4	976.1	1012.8	1034.7	1040.1	1026.0	993.9
35°	752.0	753.7	758.0	794.4	831.2	871.6	917.3	955.2	981.0	982.4	966.6
37.5°	631.4	633.4	650.4	678.2	710.1	754.5	807.1	861.0	908.4	930.2	925.6
40°	535.0	534.4	552.5	576.6	607.6	653.8	708.0	766.9	817.4	863.0	873.9
42.5°	456.9	458.9	474.4	488.5	518.3	550.8	608.7	669.9	734.7	784.7	818.0
45°	392.1	397.2	407.8	421.0	443.4	473.3	520.6	581.5	647.8	707.8	747.7
47.5°	347.3	348.7	354.2	370.5	385.4	409.6	450.0	501.7	560.5	627.7	680.2
50°	305.9	309.4	311.4	321.2	335.8	358.8	390.0	428.5	486.8	548.5	614.2
52.5°	270.4	272.4	276.1	285.0	296.5	312.5	337.2	371.1	419.6	476.7	538.7
55°	241.1	241.4	245.1	251.4	260.3	272.7	296.2	320.6	363.6	415.6	471.8
57.5°	214.7	213.0	216.4	220.1	228.7	239.4	254.6	279.5	313.1	357.3	408.1
60°	188.3	189.7	189.4	193.7	198.3	208.9	221.9	238.2	265.8	306.2	349.3
62.5°	163.6	163.3	166.2	168.8	171.9	180.5	191.1	204.6	226.2	256.0	297.6
65°	140.1	140.6	142.9	144.9	148.4	153.8	161.9	172.8	190.0	213.0	248.0
67.5°	118.8	120.8	122.0	122.6	125.7	129.7	136.6	145.5	157.3	175.6	204.9
70°	101.0	101.6	102.2	104.2	105.6	107.9	113.1	118.0	128.6	142.1	163.3
72.5°	84.4	83.8	85.5	86.1	86.7	89.0	92.1	94.7	101.6	113.1	126.3
75°	66.6	66.9	67.2	68.0	70.3	70.6	72.0	74.9	79.8	84.4	93.3
77.5°	49.9	50.8	50.5	51.4	52.2	53.1	53.7	56.3	59.7	63.4	67.7
80°	37.9	37.9	37.9	38.5	37.9	39.9	39.9	40.8	41.6	43.3	46.5
82.5°	25.8	26.4	26.7	27.0	27.3	27.3	27.6	28.1	29.3	29.8	30.7
85°	16.6	16.1	16.4	16.4	16.4	16.4	16.9	17.5	17.5	17.8	18.7
87.5°	7.5	7.5	7.5	7.5	7.2	7.5	7.7	7.7	8.0	8.0	8.6
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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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0
2.5°	763.7	762.9	758.6	754.0	749.7	745.4	743.9	739.6	734.4	729.9	724.7
5°	797.9	791.0	781.5	771.8	761.7	752.5	745.4	737.3	728.1	717.2	708.6
7.5°	832.3	819.7	804.2	789.8	772.6	758.8	745.1	733.6	720.4	704.9	693.1
10°	865.9	844.9	826.0	803.3	781.5	762.6	745.1	725.8	708.3	691.7	675.3
12.5°	892.6	871.6	844.4	816.5	788.4	763.7	740.2	717.5	695.7	675.6	657.5
15°	923.0	892.9	859.3	828.6	790.1	759.7	732.7	708.3	683.4	659.0	639.2
17.5°	945.4	909.8	868.2	832.9	795.9	758.0	725.6	694.8	666.1	640.6	620.2
20°	962.6	920.4	878.8	834.0	789.8	751.1	714.6	679.3	650.4	622.5	601.0
22.5°	970.1	925.6	879.4	830.9	783.8	739.9	702.0	665.6	632.8	604.1	579.2
25°	973.2	924.4	876.5	821.4	773.8	729.0	686.8	649.2	615.6	583.2	558.5
27.5°	970.7	918.4	863.3	811.4	757.4	713.5	668.7	630.6	595.5	564.3	536.7
30°	963.8	904.6	849.8	791.6	739.6	693.4	649.8	609.3	574.0	542.2	514.9
32.5°	946.0	889.1	826.9	770.0	714.1	668.4	628.8	588.9	553.1	519.8	493.4
35°	923.9	868.2	803.0	743.6	688.2	642.0	602.1	566.6	531.2	495.9	469.0
37.5°	896.0	839.5	776.6	712.6	658.4	613.6	577.2	541.3	506.3	473.8	443.7
40°	858.4	806.8	743.6	679.3	624.8	581.8	545.9	512.9	481.9	450.0	417.6
42.5°	811.7	772.3	707.2	643.8	590.4	547.6	515.8	486.2	456.3	423.6	394.3
45°	761.7	728.1	669.0	605.0	554.2	512.6	482.2	456.1	427.9	398.9	368.2
47.5°	705.5	680.5	629.4	566.0	512.6	477.0	448.9	425.1	399.5	373.7	343.8
50°	642.0	626.8	583.2	525.5	474.7	438.5	415.3	394.1	372.2	346.4	320.9
52.5°	578.6	575.7	535.0	484.2	436.2	402.7	380.0	360.5	342.7	318.3	296.8
55°	512.0	520.6	486.8	440.0	397.2	364.8	344.7	328.9	313.4	292.7	272.1
57.5°	452.9	462.7	439.4	396.4	356.5	328.9	311.7	297.3	283.8	264.9	251.1
60°	387.5	405.3	392.9	353.6	318.3	293.6	277.5	266.1	254.9	238.5	226.4
62.5°	335.8	348.1	341.0	311.7	280.4	260.3	246.0	235.3	226.4	213.8	202.1
65°	280.4	295.9	292.2	272.9	245.4	227.0	216.1	207.8	198.6	188.6	178.8
67.5°	230.5	246.5	245.7	232.5	212.1	196.9	186.6	180.5	173.1	163.3	157.3
70°	185.4	200.3	200.9	194.3	180.0	165.6	158.1	152.7	146.9	139.8	135.5
72.5°	144.1	157.6	159.9	156.7	147.5	138.0	131.4	127.7	122.8	116.8	113.1
75°	107.6	117.4	122.8	121.4	117.7	111.4	107.6	105.0	100.2	95.9	92.7
77.5°	76.6	84.4	89.8	92.1	90.4	87.8	84.4	82.4	77.2	75.2	73.5
80°	51.4	58.3	63.1	64.6	65.4	64.9	61.7	60.6	58.0	57.1	55.4
82.5°	31.6	35.3	38.7	42.5	44.2	44.2	42.5	42.8	40.5	39.3	38.7
85°	19.2	20.1	20.7	23.5	25.8	26.7	25.8	26.1	25.3	24.4	23.5
87.5°	8.9	8.9	9.2	9.8	10.3	12.1	12.6	13.5	12.3	12.3	10.3
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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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0	737.0
2.5°	721.5	717.8	714.9	710.3	706.6	700.6	698.6	698.6	699.7	698.3	699.7
5°	702.6	695.7	688.2	681.6	674.5	669.3	664.1	663.0	662.4	659.0	659.3
7.5°	683.6	674.5	665.0	656.4	647.5	639.4	634.0	631.7	629.7	627.4	624.8
10°	663.3	652.7	641.5	631.7	623.1	612.2	606.7	605.0	599.3	598.1	594.1
12.5°	641.7	630.8	619.6	607.0	598.7	588.1	580.0	576.3	570.9	566.8	560.8
15°	624.8	611.0	596.1	583.8	572.9	561.1	550.2	543.0	535.8	524.6	519.2
17.5°	603.9	588.1	575.2	562.0	546.2	529.0	516.0	505.4	497.7	488.5	483.0
20°	581.2	566.6	550.5	531.8	515.2	495.7	483.9	475.0	469.0	463.5	460.6
22.5°	561.1	544.2	522.1	504.3	481.0	465.5	456.1	450.3	444.6	438.8	436.0
25°	539.3	519.5	492.5	470.7	453.2	441.1	431.9	426.5	420.5	417.0	412.7
27.5°	517.8	492.2	465.2	445.4	431.7	417.6	409.8	405.5	400.9	396.1	392.6
30°	491.6	462.7	440.3	422.2	408.4	396.6	390.9	384.6	380.6	377.7	375.7
32.5°	464.4	436.5	416.2	400.7	387.2	378.3	371.1	367.1	363.6	360.5	358.2
35°	438.8	411.9	394.6	379.7	368.5	358.5	353.0	349.3	346.4	343.8	342.7
37.5°	413.6	390.6	372.0	360.2	348.4	340.4	335.2	331.8	330.1	327.5	327.8
40°	388.6	367.9	353.0	339.5	328.6	321.7	317.7	316.3	313.7	312.8	313.7
42.5°	366.2	347.3	332.9	320.3	310.8	304.2	301.1	299.1	298.2	297.9	298.2
45°	344.4	326.6	312.8	302.5	292.7	286.7	284.1	282.7	281.8	283.3	283.6
47.5°	322.6	306.5	294.2	282.1	274.1	269.8	267.2	266.1	266.9	267.5	269.5
50°	301.1	286.1	273.2	262.6	256.3	252.3	251.4	249.4	250.8	251.7	253.1
52.5°	279.3	265.8	254.3	244.2	237.6	235.1	233.0	232.2	234.2	234.2	235.6
55°	257.2	245.4	234.8	225.6	220.4	217.3	215.8	214.7	215.8	216.1	215.8
57.5°	236.5	225.3	214.1	206.4	202.1	198.6	197.2	196.6	196.3	197.5	197.2
60°	214.7	204.1	195.2	187.1	182.8	180.8	177.7	178.2	178.2	178.2	175.4
62.5°	192.9	182.2	174.5	169.0	163.9	160.4	159.9	159.0	157.3	157.0	153.3
65°	170.5	162.4	155.8	150.4	145.2	142.4	141.5	138.9	136.9	133.2	130.6
67.5°	149.8	144.1	136.3	131.7	127.4	124.0	120.8	118.8	114.8	111.1	108.8
70°	129.2	123.1	118.0	113.1	108.8	105.6	101.9	98.2	95.6	93.3	91.6
72.5°	108.5	103.3	99.0	94.4	89.8	86.7	83.8	80.9	79.8	78.6	77.8
75°	89.3	84.4	80.4	76.6	74.0	70.3	68.9	67.7	66.6	65.2	63.4
77.5°	70.6	66.9	63.7	60.6	58.3	56.3	55.1	51.7	48.8	48.2	47.6
80°	52.5	49.7	47.6	45.3	42.8	39.9	39.0	37.9	37.3	37.3	37.6
82.5°	36.7	35.0	32.7	30.7	29.8	28.7	28.7	28.4	28.1	28.4	28.4
85°	22.4	20.1	19.5	19.2	19.5	19.5	19.5	19.5	19.2	19.5	18.9
87.5°	9.8	10.6	10.9	10.0	10.3	9.8	10.0	10.0	10.0	10.3	10.0
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):

	165°	170°	175°	180°
0°	737.0	737.0	737.0	737.0
2.5°	698.0	698.0	695.1	692.8
5°	658.7	654.9	654.4	650.9
7.5°	621.9	621.4	619.9	619.9
10°	592.7	590.7	588.6	588.4
12.5°	551.3	554.2	550.8	549.9
15°	515.2	512.9	510.0	504.0
17.5°	481.6	477.3	476.1	473.6
20°	455.2	452.0	450.9	449.5
22.5°	430.2	429.6	426.2	425.3
25°	411.9	409.0	406.7	405.3
27.5°	391.8	389.8	388.6	386.3
30°	373.4	372.8	371.4	371.4
32.5°	356.7	355.0	355.0	354.7
35°	341.5	342.1	340.4	339.8
37.5°	327.2	326.3	326.6	326.0
40°	313.1	312.5	312.5	312.8
42.5°	298.8	299.1	299.6	299.6
45°	284.4	284.7	285.3	285.3
47.5°	270.9	270.4	270.9	270.4
50°	253.7	255.4	255.1	254.9
52.5°	236.2	235.6	236.8	236.5
55°	217.3	216.4	217.6	216.4
57.5°	196.0	196.3	196.3	195.7
60°	174.8	173.9	172.8	172.8
62.5°	150.1	147.5	145.8	146.9
65°	126.3	124.3	123.7	122.8
67.5°	107.3	105.0	104.2	103.9
70°	91.0	89.8	89.5	89.5
72.5°	77.2	77.2	76.3	75.8
75°	62.9	61.7	60.3	60.3
77.5°	47.1	46.8	46.5	46.5
80°	36.7	36.7	37.0	37.3
82.5°	27.6	27.8	28.1	28.1
85°	18.7	18.7	18.9	18.9
87.5°	10.0	10.0	10.0	9.8
90°	0.0	0.0	0.0	0.0

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