

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: P243253

Luminaire Tested: **S122RDR-H485D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243253
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-H485D830-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1618.2 lumens
Efficiency: N/A
Efficacy: 94.1 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

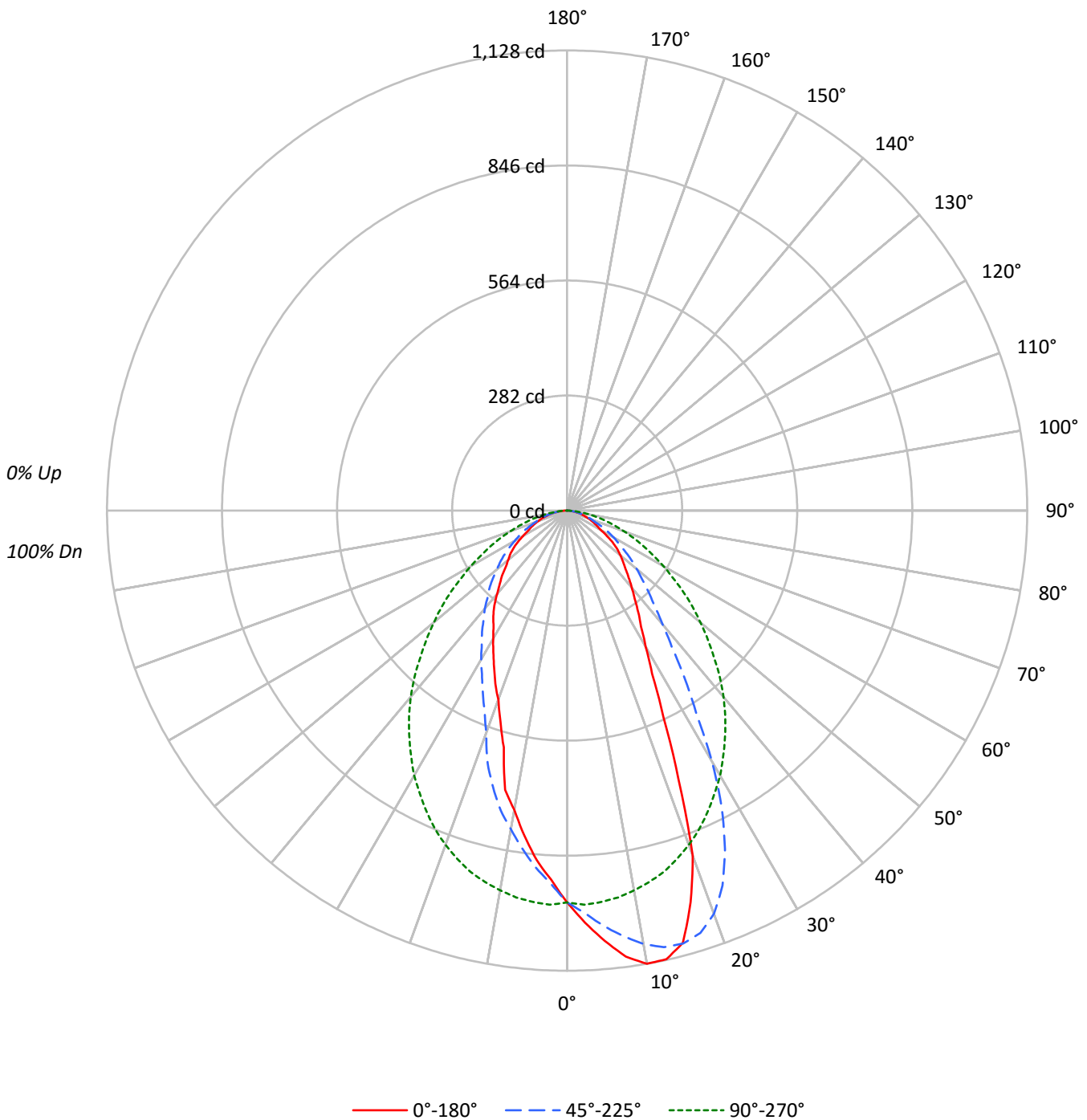
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	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	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°	18290	18290	18290
5°	20247	18413	16436
10°	21817	18286	14415
15°	21625	18073	11846
20°	18241	17674	9999
25°	11727	17129	8901
30°	8472	16496	7975
35°	7057	15700	7336
40°	6124	14827	6641
45°	5468	13719	6077
50°	5046	12636	5586
55°	4530	11540	5320
60°	3615	10389	4789
65°	3313	9334	4417
70°	3046	8242	4199
75°	2775	7212	3974
80°	2413	6000	3719
85°	1923	4808	3431



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	5.6
10°-20°	248.7	15.4
20°-30°	313.5	19.4
30°-40°	300.9	18.6
40°-50°	259.2	16.0
50°-60°	198.2	12.2
60°-70°	126.1	7.8
70°-80°	63.9	3.9
80°-90°	16.9	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°	653.1	40.4
0°-40°	954.0	59.0
0°-60°	1411.4	87.2
0°-90°	1618.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1618.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	960	960	960	960	960	
5°	1059	1022	963	879	860	103
15°	1097	1099	916	702	601	297
25°	558	916	815	490	424	267
35°	304	502	675	364	316	191
45°	203	282	509	270	226	158
55°	136	172	348	187	160	120
65°	74	95	207	115	98	73
75°	38	43	98	59	54	40
85°	9	10	22	17	16	10
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°	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2
2.5°	1011.1	1012.3	1013.0	1011.4	1008.0	1008.3	1005.1	999.8	993.2	987.2	990.7
5°	1058.9	1060.4	1060.1	1057.3	1053.8	1050.7	1045.3	1037.8	1029.9	1021.8	1020.2
7.5°	1102.8	1106.3	1105.4	1100.0	1097.5	1093.1	1084.0	1075.5	1063.6	1051.9	1047.2
10°	1128.0	1130.8	1129.2	1128.0	1125.1	1120.7	1112.6	1104.4	1091.2	1079.0	1072.0
12.5°	1126.1	1128.6	1129.9	1131.1	1130.2	1128.6	1125.1	1118.2	1107.6	1096.2	1087.4
15°	1096.6	1092.5	1089.6	1097.5	1100.3	1111.0	1113.5	1114.5	1107.2	1098.8	1096.6
17.5°	1006.7	1008.0	1029.6	1026.2	1030.9	1057.0	1067.3	1081.5	1087.4	1085.6	1089.3
20°	899.9	885.1	895.8	911.5	926.3	964.3	989.4	1011.7	1037.5	1051.9	1065.8
22.5°	713.9	714.2	739.9	765.7	799.0	840.2	878.5	921.2	967.1	995.1	1027.4
25°	558.0	573.1	584.4	595.7	644.1	683.7	747.5	799.3	862.5	915.6	969.9
27.5°	451.2	466.9	468.8	494.2	522.8	554.9	596.7	678.4	743.1	821.0	888.2
30°	385.2	388.4	394.9	401.5	422.6	452.4	497.4	548.6	620.5	709.5	799.6
32.5°	337.4	336.8	343.4	353.8	365.4	385.5	411.0	453.4	518.4	589.1	694.4
35°	303.5	302.6	307.3	311.1	318.0	334.3	357.2	385.2	432.0	502.4	584.1
37.5°	271.5	273.4	276.2	280.3	289.4	299.7	315.1	338.4	375.5	422.0	500.2
40°	246.3	248.5	251.7	254.5	261.4	269.9	280.3	298.8	323.6	364.2	424.2
42.5°	223.7	224.7	227.2	231.3	236.3	243.8	253.9	268.0	288.7	317.0	369.5
45°	203.0	203.0	205.8	209.6	212.7	219.9	227.8	241.3	257.3	281.5	318.9
47.5°	185.4	185.7	187.3	187.9	191.3	197.9	206.4	217.1	230.3	248.8	283.7
50°	170.3	171.6	172.2	173.1	174.4	177.8	183.8	192.0	206.4	222.8	246.0
52.5°	154.6	156.2	157.4	159.3	161.2	161.5	165.9	171.2	181.3	198.3	217.1
55°	136.4	137.6	140.1	141.7	144.2	146.4	149.9	153.6	160.2	171.6	191.0
57.5°	115.6	115.9	118.5	120.0	125.1	130.1	133.2	137.3	142.0	149.9	164.6
60°	94.9	95.8	96.1	97.4	101.8	107.1	113.4	119.7	124.7	131.6	142.0
62.5°	83.6	83.9	84.8	86.1	86.4	88.9	90.8	98.3	107.1	114.1	121.0
65°	73.5	73.8	73.8	74.8	76.0	77.3	78.2	81.1	84.8	94.6	103.1
67.5°	64.1	63.8	64.4	65.4	65.7	66.6	68.2	69.8	72.3	75.1	83.9
70°	54.7	54.7	54.4	55.3	56.2	56.6	57.5	59.1	60.6	63.2	66.0
72.5°	45.2	45.9	45.9	46.5	46.8	48.1	48.7	49.3	51.5	52.8	55.0
75°	37.7	37.4	38.3	38.0	38.6	39.0	39.9	40.8	41.5	42.7	44.6
77.5°	30.2	29.5	30.2	29.8	30.5	31.1	31.1	32.0	32.7	33.9	34.9
80°	22.0	22.0	22.3	22.9	22.9	23.3	23.9	23.6	24.8	25.1	26.1
82.5°	15.1	15.4	15.4	15.7	15.7	15.7	16.3	16.3	16.7	17.3	17.6
85°	8.8	8.5	8.8	8.8	8.8	9.1	9.4	9.1	9.7	10.4	10.4
87.5°	2.5	2.5	2.8	3.1	3.1	3.5	3.5	3.5	3.8	3.8	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2
2.5°	990.7	989.1	985.0	981.2	974.3	968.7	966.8	967.1	958.6	949.8	947.3
5°	1018.0	1012.3	1004.2	995.7	985.3	975.0	968.4	963.0	949.8	936.6	929.1
7.5°	1040.6	1031.5	1019.6	1006.1	992.6	977.2	966.5	956.4	938.2	920.3	910.5
10°	1061.4	1048.5	1032.1	1014.5	996.6	976.5	961.1	945.4	922.5	902.4	885.7
12.5°	1081.2	1060.7	1044.1	1018.6	998.8	971.5	950.5	932.2	905.2	880.1	861.5
15°	1083.0	1068.6	1046.3	1019.9	989.7	964.3	937.9	916.5	885.7	857.8	826.0
17.5°	1082.7	1071.4	1048.2	1021.1	985.0	951.7	923.1	895.2	860.0	827.3	800.0
20°	1071.4	1063.6	1043.5	1011.4	975.0	936.6	904.9	871.9	830.7	797.1	767.3
22.5°	1044.7	1046.6	1030.9	1002.3	963.0	920.3	883.5	845.5	803.4	764.8	727.1
25°	999.5	1019.6	1014.9	988.2	946.4	899.6	857.8	815.0	769.8	728.6	693.8
27.5°	943.2	980.9	989.1	968.4	928.5	876.0	828.5	782.0	735.9	691.6	655.7
30°	876.6	932.9	953.6	942.3	905.5	850.5	795.6	750.0	699.4	652.3	614.6
32.5°	792.7	871.6	908.0	911.5	881.3	822.3	761.3	712.3	660.4	615.8	575.3
35°	699.1	795.9	855.2	871.3	849.6	791.2	727.1	675.2	619.9	575.0	534.1
37.5°	604.8	718.6	796.5	827.6	813.1	756.6	688.7	636.3	581.6	535.7	497.4
40°	518.1	626.2	727.4	776.1	771.7	719.2	650.7	596.3	540.7	498.3	456.2
42.5°	440.5	544.8	656.0	721.4	724.9	679.0	608.9	554.2	500.8	458.7	414.7
45°	379.2	471.0	581.3	659.2	674.3	636.6	565.6	509.3	460.6	421.0	377.0
47.5°	330.2	401.5	504.0	595.4	622.1	589.1	521.3	467.8	422.0	388.0	346.6
50°	287.8	354.7	441.8	526.3	565.6	540.7	477.3	426.4	384.9	352.2	315.8
52.5°	250.1	301.9	377.4	458.4	511.2	488.6	434.5	387.7	348.8	318.3	287.8
55°	219.0	262.4	329.0	401.2	449.9	437.4	389.3	347.5	313.3	284.4	259.5
57.5°	186.9	223.4	277.1	341.5	389.3	387.4	347.8	307.6	280.6	253.2	235.3
60°	159.0	188.5	232.2	286.9	334.9	335.3	304.5	272.7	249.5	225.9	208.9
62.5°	134.2	157.7	195.7	239.7	278.1	287.8	264.9	237.2	218.4	200.1	185.7
65°	112.8	130.4	159.0	198.9	229.1	242.2	227.2	207.1	191.3	175.0	162.1
67.5°	93.0	105.9	126.9	158.4	188.5	198.3	192.0	176.6	165.3	151.8	142.0
70°	73.2	84.2	99.0	122.5	147.4	160.9	159.0	148.0	138.6	128.8	119.7
72.5°	58.1	64.4	75.7	92.7	112.5	127.6	128.2	122.5	114.7	106.5	100.5
75°	46.8	49.6	55.0	68.2	83.9	96.5	100.9	98.0	91.7	86.7	82.6
77.5°	36.1	38.6	42.1	48.4	60.6	70.4	75.7	76.0	72.3	67.9	64.7
80°	27.0	28.0	30.5	33.6	39.9	48.4	54.7	54.7	52.5	50.3	48.4
82.5°	18.5	19.5	20.7	22.3	25.5	30.5	36.1	37.1	35.8	35.2	32.7
85°	10.4	11.3	11.9	12.9	14.1	16.7	20.7	22.0	22.3	20.4	19.2
87.5°	4.1	4.1	4.4	4.7	5.0	6.0	7.5	9.4	9.4	8.5	8.2
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2	960.2
2.5°	944.2	939.8	934.1	929.1	922.2	915.3	914.0	916.5	917.1	914.0	914.9
5°	921.9	913.7	906.8	895.5	888.2	878.8	872.5	872.5	872.5	867.8	863.4
7.5°	898.6	887.6	874.4	863.7	849.0	836.7	830.7	827.9	822.3	817.5	812.2
10°	871.6	856.2	839.9	823.2	810.3	793.4	783.3	777.0	767.3	763.2	755.3
12.5°	839.9	824.5	804.7	777.6	773.9	753.1	739.0	727.4	715.4	705.7	702.2
15°	814.4	787.7	761.3	742.1	714.2	701.9	681.2	679.3	669.6	641.0	618.7
17.5°	773.2	749.4	720.1	698.8	676.5	649.1	627.1	605.5	584.7	564.6	564.0
20°	736.8	708.8	681.2	657.9	619.0	580.0	566.5	546.7	534.5	518.4	513.7
22.5°	696.9	667.7	633.1	599.2	553.6	529.1	514.3	498.6	486.4	479.2	471.9
25°	656.7	627.5	581.6	539.8	508.7	489.5	477.0	460.0	451.2	444.9	435.5
27.5°	617.4	580.3	531.9	498.6	473.5	451.8	440.5	426.7	416.9	408.8	402.8
30°	578.4	527.5	486.4	460.6	434.9	421.3	406.6	396.2	389.0	381.4	371.7
32.5°	535.7	482.3	455.6	423.9	408.8	389.3	378.6	367.9	358.5	353.2	349.7
35°	486.1	443.0	419.1	395.9	376.7	363.8	348.8	342.2	337.1	326.8	322.4
37.5°	444.0	412.9	387.7	367.0	349.4	335.6	328.7	317.3	310.1	306.7	301.9
40°	409.1	381.4	359.8	338.7	323.9	313.9	301.6	295.7	286.2	282.8	279.0
42.5°	378.9	353.5	330.9	314.8	301.9	288.1	281.8	271.8	267.7	259.2	256.1
45°	348.4	325.8	306.0	290.3	278.1	269.6	258.3	252.0	244.8	240.4	231.9
47.5°	318.0	297.9	281.5	268.3	257.6	247.3	237.8	232.5	223.4	218.7	214.3
50°	294.4	274.9	259.5	246.3	235.3	225.0	219.0	210.2	202.0	196.7	195.1
52.5°	266.4	249.5	235.3	225.3	214.3	206.7	198.6	188.8	184.7	179.4	178.2
55°	241.6	227.8	215.9	205.2	195.7	187.3	177.8	170.9	167.8	165.3	163.4
57.5°	218.4	205.2	194.2	184.4	176.3	167.5	159.6	155.5	152.7	149.9	148.0
60°	195.4	183.5	173.4	165.3	156.8	148.3	142.6	139.2	137.0	132.9	131.6
62.5°	175.0	164.0	153.6	146.1	138.2	131.6	126.9	122.2	118.8	115.6	109.0
65°	152.7	143.0	135.1	127.6	120.0	115.0	109.7	104.3	99.9	99.9	99.9
67.5°	132.9	124.4	116.3	109.7	103.1	97.1	91.7	91.4	89.9	89.2	88.3
70°	112.8	106.8	99.3	92.1	85.5	82.6	81.7	80.1	78.2	77.9	76.7
72.5°	94.6	87.7	80.7	74.5	73.2	72.0	70.1	68.5	67.2	66.3	65.7
75°	77.3	70.4	64.7	63.2	61.6	59.4	57.8	56.6	55.9	55.9	55.6
77.5°	59.1	55.0	52.5	50.0	48.7	47.4	46.5	45.9	44.9	45.2	44.6
80°	43.4	42.1	39.9	38.3	37.7	36.4	35.8	35.5	34.9	34.9	34.6
82.5°	31.1	28.9	28.0	27.0	26.4	25.8	26.1	25.8	25.5	25.1	25.5
85°	17.9	17.6	17.0	17.0	17.0	16.7	16.7	16.7	16.3	16.0	16.0
87.5°	7.9	8.2	8.2	7.5	8.5	8.5	8.2	8.2	7.9	8.5	7.9
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):

	165°	170°	175°	180°
0°	960.2	960.2	960.2	960.2
2.5°	910.9	910.5	908.7	905.5
5°	861.5	860.3	857.1	859.6
7.5°	808.7	805.3	802.2	803.7
10°	752.2	750.9	749.1	745.3
12.5°	689.7	694.7	689.4	701.3
15°	597.0	619.3	591.3	600.7
17.5°	550.8	551.1	547.3	542.9
20°	507.4	496.4	500.5	493.3
22.5°	465.6	463.1	461.9	459.4
25°	428.3	423.5	422.0	423.5
27.5°	400.6	398.4	392.4	391.5
30°	366.0	365.1	363.2	362.6
32.5°	344.4	340.3	339.3	335.6
35°	320.2	318.0	316.4	315.5
37.5°	296.0	294.7	291.9	293.5
40°	276.2	269.9	267.4	267.1
42.5°	254.5	251.0	246.0	244.4
45°	229.4	227.8	226.2	225.6
47.5°	207.4	206.4	204.5	203.6
50°	191.7	189.1	188.8	188.5
52.5°	176.6	175.6	174.7	176.0
55°	162.4	161.2	160.2	160.2
57.5°	147.0	144.8	143.0	143.3
60°	129.1	127.9	126.3	125.7
62.5°	108.4	108.4	108.1	108.1
65°	98.7	98.0	97.7	98.0
67.5°	88.0	87.3	86.4	86.7
70°	75.7	75.4	75.7	75.4
72.5°	64.7	64.4	64.7	65.4
75°	54.7	54.4	54.0	54.0
77.5°	44.3	44.0	43.4	44.0
80°	34.6	34.2	33.9	33.9
82.5°	24.5	24.8	24.5	24.5
85°	16.0	16.3	16.0	15.7
87.5°	8.2	8.5	7.9	7.5
90°	0.0	0.0	0.0	0.0

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