

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: P243691

Luminaire Tested: **S125DR-H610D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243691
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-61)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S125DR-H610D940-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2089.0 lumens
Efficiency: N/A
Efficacy: 121.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.22 / 1.53
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

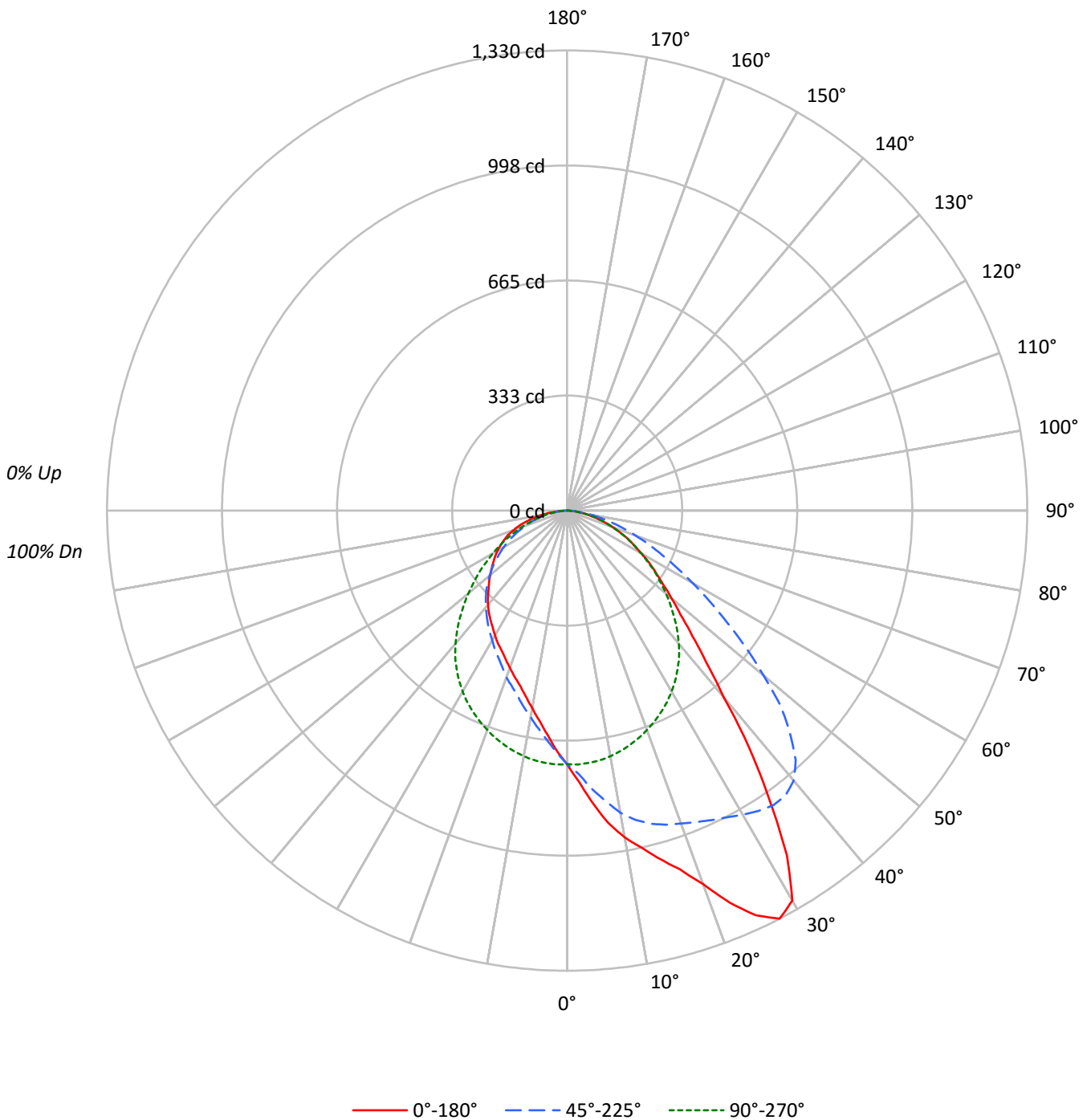
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	56	66	61	56	64	59	55	53
5	78	65	56	50	75	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	5210	5210	5210
5°	6052	5221	4640
10°	6925	5204	4187
15°	7677	5157	3858
20°	8691	5105	3660
25°	10121	5039	3505
30°	10685	4957	3420
35°	8835	4835	3347
40°	6535	4660	3298
45°	5138	4406	3226
50°	4351	4121	3214
55°	3875	3838	3227
60°	3515	3524	3295
65°	3259	3229	3389
70°	2928	2891	3410
75°	2499	2537	3364
80°	2042	2079	3139
85°	1403	1476	2667



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.8	3.4
10°-20°	211.6	10.1
20°-30°	344.0	16.5
30°-40°	418.5	20.0
40°-50°	382.9	18.3
50°-60°	306.5	14.7
60°-70°	213.4	10.2
70°-80°	113.4	5.4
80°-90°	27.8	1.3
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°	626.4	30.0
0°-40°	1044.9	50.0
0°-60°	1734.3	83.0
0°-90°	2089.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2089.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	733	733	733	733	733	
5°	848	806	732	666	650	84
15°	1043	937	701	554	524	299
25°	1291	987	643	469	447	589
35°	1018	1039	557	400	386	631
45°	511	911	438	331	321	403
55°	313	566	310	253	260	282
65°	194	302	192	169	202	191
75°	91	134	92	89	122	98
85°	17	26	18	20	33	22
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°	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0
2.5°	784.7	781.4	780.5	780.8	779.0	777.6	774.0	769.2	766.0	761.8	760.6
5°	848.3	840.3	841.8	839.4	835.5	830.5	826.0	818.9	812.0	805.5	796.9
7.5°	910.7	909.2	905.1	904.5	898.2	889.6	880.7	870.9	856.3	846.2	834.6
10°	959.5	962.4	956.5	956.8	945.8	937.2	929.4	916.7	900.3	886.6	869.7
12.5°	998.7	999.9	999.0	995.1	988.0	973.4	966.0	952.6	934.8	916.1	903.0
15°	1043.3	1040.0	1035.0	1030.2	1019.8	1009.4	993.9	978.2	955.6	936.9	917.9
17.5°	1087.9	1087.3	1081.0	1070.9	1057.8	1044.2	1021.0	1000.8	976.7	952.0	928.3
20°	1149.1	1145.8	1136.6	1125.0	1100.9	1081.6	1052.8	1025.2	993.6	962.7	935.1
22.5°	1225.8	1215.1	1205.9	1188.0	1160.4	1126.8	1094.4	1054.3	1010.3	974.0	939.5
25°	1290.6	1285.8	1276.0	1256.1	1224.6	1184.2	1136.0	1090.5	1035.3	987.1	942.2
27.5°	1329.8	1327.7	1321.8	1303.1	1276.9	1236.8	1185.4	1127.4	1064.7	999.6	945.8
30°	1301.9	1302.2	1305.4	1303.4	1291.8	1265.9	1220.1	1161.9	1089.4	1014.5	946.7
32.5°	1181.8	1189.8	1215.4	1227.6	1243.9	1249.3	1228.8	1180.3	1110.2	1029.3	949.7
35°	1018.3	1037.9	1055.2	1090.8	1133.3	1168.1	1188.3	1172.6	1118.8	1039.4	951.1
37.5°	864.3	862.9	889.6	928.3	973.4	1032.6	1089.9	1121.5	1103.9	1037.3	948.5
40°	704.4	718.1	734.8	768.9	821.8	894.7	963.0	1030.5	1054.9	1018.9	938.1
42.5°	595.1	601.3	617.9	644.7	682.7	757.0	824.5	911.3	973.7	977.9	915.2
45°	511.2	518.1	522.8	549.3	584.7	634.6	703.8	791.2	875.0	911.3	878.0
47.5°	444.1	447.9	458.3	474.4	497.6	541.9	597.1	676.5	767.7	838.2	826.9
50°	393.5	396.5	404.8	413.7	432.8	465.5	510.0	575.1	662.8	739.8	765.1
52.5°	348.9	352.8	357.0	365.6	383.1	405.1	441.4	492.2	573.7	652.4	692.5
55°	312.7	314.2	318.6	325.2	338.5	355.2	384.0	430.1	487.2	565.6	620.9
57.5°	281.2	279.7	284.5	288.9	297.8	311.8	332.6	366.8	421.2	488.1	545.7
60°	247.3	248.8	252.3	255.9	262.2	274.3	290.7	318.0	357.9	417.9	476.8
62.5°	218.2	219.4	220.2	225.3	230.9	239.6	252.9	275.2	308.2	357.9	410.5
65°	193.8	191.7	192.9	196.5	200.9	208.1	220.5	236.9	261.6	302.0	345.7
67.5°	165.3	165.9	166.2	168.2	172.1	178.9	187.9	201.2	221.4	253.2	291.6
70°	140.9	141.2	141.5	143.3	146.5	150.4	156.6	167.0	184.3	209.0	239.0
72.5°	115.9	117.1	117.1	118.6	121.0	123.1	129.0	137.6	150.7	170.3	195.6
75°	91.0	93.0	93.6	95.4	97.5	98.1	102.5	109.4	117.7	133.8	153.7
77.5°	70.7	70.7	71.9	74.0	74.0	75.8	80.5	83.5	90.1	101.1	116.2
80°	49.9	50.8	50.8	51.4	52.6	54.1	56.2	58.9	64.5	72.5	80.5
82.5°	32.7	33.0	33.3	34.8	34.2	35.7	36.6	39.8	42.5	46.4	51.4
85°	17.2	17.2	17.5	18.4	19.3	19.6	20.2	21.7	23.8	25.6	28.5
87.5°	7.1	6.8	6.8	7.4	7.4	7.7	8.0	8.6	9.8	9.8	11.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0
2.5°	759.7	757.3	753.2	749.6	745.2	741.9	738.6	734.5	730.3	725.8	721.1
5°	790.0	782.9	774.9	766.9	757.3	749.6	741.3	731.8	723.8	714.8	705.3
7.5°	824.8	812.3	798.4	782.6	767.7	754.4	740.7	727.6	715.7	702.4	689.3
10°	858.4	836.7	819.2	797.8	776.7	757.0	738.3	721.1	703.8	687.2	671.1
12.5°	881.3	856.6	834.6	810.0	785.3	760.6	735.9	712.2	691.7	671.4	654.5
15°	897.0	879.8	850.7	821.0	788.6	756.5	728.5	700.9	676.5	653.0	632.8
17.5°	906.9	884.6	856.0	824.8	789.1	755.6	722.0	689.0	661.0	635.8	612.9
20°	909.5	883.4	853.6	821.3	785.6	748.7	711.0	675.0	644.7	615.9	592.7
22.5°	906.9	876.5	844.7	813.2	775.8	738.3	698.8	659.6	624.8	595.1	570.7
25°	902.4	865.8	832.5	795.4	760.6	724.9	684.2	642.6	606.4	575.4	548.1
27.5°	896.7	854.8	813.8	777.3	739.5	704.4	667.0	624.5	586.7	552.9	527.3
30°	890.2	840.3	794.8	751.4	715.7	680.7	644.1	604.0	565.9	533.5	505.9
32.5°	882.8	824.8	771.3	724.7	686.6	654.2	620.0	581.7	544.2	509.5	485.4
35°	872.4	803.7	746.1	695.5	656.0	620.9	590.9	557.3	520.2	487.8	462.8
37.5°	860.2	785.0	720.5	665.8	622.7	586.7	559.1	531.7	497.0	465.8	441.7
40°	843.8	762.4	693.4	634.3	588.2	552.9	525.8	502.3	473.5	442.0	420.3
42.5°	822.4	737.4	662.8	599.8	555.2	517.5	492.2	470.8	446.1	418.8	397.4
45°	798.1	708.9	628.6	566.8	518.4	482.4	457.7	438.4	419.7	395.3	375.4
47.5°	760.0	675.3	597.7	529.4	481.8	447.0	423.9	405.4	391.5	372.1	352.5
50°	714.8	637.3	561.2	492.5	444.4	410.8	388.8	372.7	360.8	346.0	331.1
52.5°	665.2	594.5	521.0	456.8	408.7	376.9	353.7	339.4	331.7	319.8	308.2
55°	607.2	546.3	477.9	419.4	372.1	339.7	319.8	309.7	301.1	295.2	284.7
57.5°	549.0	497.6	436.6	378.7	335.3	306.4	288.6	277.3	271.1	266.9	259.5
60°	485.4	445.0	389.1	338.8	300.2	272.9	257.1	247.9	242.2	239.9	234.8
62.5°	424.7	393.8	343.0	301.1	266.6	242.5	226.8	219.4	215.8	213.1	210.1
65°	365.0	340.6	300.5	261.3	232.1	210.4	198.0	192.0	189.3	186.4	186.1
67.5°	311.2	288.9	256.8	224.7	200.3	181.9	170.9	165.0	162.0	162.3	160.8
70°	258.3	241.1	214.9	188.7	167.9	153.4	143.0	139.1	137.9	137.6	136.4
72.5°	209.0	199.1	176.3	154.3	137.9	126.6	118.3	115.0	113.5	112.9	112.9
75°	165.6	158.4	138.8	122.2	109.7	100.5	94.8	92.4	90.4	91.5	90.7
77.5°	124.2	118.3	104.9	93.0	83.5	75.8	73.1	71.0	69.8	69.6	70.7
80°	87.4	83.8	75.5	66.0	58.9	54.4	52.6	50.8	49.9	49.3	49.9
82.5°	56.2	54.1	48.2	42.5	38.3	36.0	34.2	33.3	31.8	32.1	32.7
85°	30.6	30.0	26.2	24.4	20.5	20.2	19.0	18.1	18.4	17.8	18.7
87.5°	12.5	11.9	11.0	10.1	8.9	8.0	7.4	8.0	7.1	8.0	7.7
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°	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0	733.0
2.5°	718.7	715.4	711.6	708.0	702.7	699.1	697.3	697.9	695.8	695.2	694.9
5°	699.7	692.3	685.1	679.2	672.9	665.8	660.7	659.3	658.7	657.2	653.9
7.5°	680.1	670.6	661.3	652.7	643.8	635.5	630.4	626.3	623.9	619.7	618.8
10°	659.3	647.7	637.9	625.4	614.7	606.1	599.5	595.9	593.9	590.0	586.7
12.5°	639.3	627.2	612.0	600.7	589.4	580.5	573.1	567.1	565.6	560.6	557.9
15°	617.9	603.1	589.4	576.3	565.6	554.3	549.9	544.5	539.2	534.7	533.8
17.5°	597.4	579.6	566.2	553.4	540.4	532.0	526.1	522.5	518.4	516.0	511.8
20°	572.8	558.2	543.3	531.4	520.2	513.0	505.0	501.7	498.8	493.1	491.3
22.5°	552.0	534.4	521.9	510.0	499.9	489.8	484.2	480.9	476.5	473.5	471.1
25°	530.3	515.7	499.9	488.1	479.4	469.3	465.5	461.3	457.4	454.8	452.4
27.5°	509.2	493.1	480.3	468.4	459.5	452.4	447.0	442.6	439.9	437.8	436.3
30°	487.2	472.3	460.4	449.4	439.3	433.4	428.3	426.5	423.6	422.1	419.7
32.5°	467.2	452.1	440.8	431.3	422.4	416.4	413.4	410.8	407.8	405.1	404.8
35°	444.7	431.6	421.2	410.8	404.2	399.5	396.2	393.5	391.2	389.1	387.9
37.5°	424.7	412.3	400.7	393.2	386.1	381.9	378.4	377.5	375.1	375.4	373.6
40°	403.3	392.0	382.2	374.8	370.1	365.6	363.2	360.2	358.8	359.1	357.6
42.5°	382.5	372.1	363.2	356.4	351.3	348.1	346.0	343.6	341.8	340.6	340.3
45°	361.4	352.2	344.8	338.0	333.8	330.8	328.1	325.2	323.7	323.1	322.8
47.5°	340.6	332.3	324.3	319.5	315.7	313.0	310.3	307.9	306.7	305.9	304.4
50°	319.2	310.9	305.3	299.3	296.0	292.5	289.5	288.3	286.8	286.5	288.0
52.5°	296.9	290.4	285.3	280.6	276.7	272.9	269.9	268.4	269.3	269.3	271.1
55°	275.8	269.0	264.2	260.4	256.2	252.6	249.7	249.7	249.7	251.5	253.8
57.5°	252.3	246.4	242.8	238.4	234.5	232.1	230.1	229.8	230.9	233.9	236.6
60°	228.6	224.4	220.5	217.0	213.1	211.3	211.0	210.4	212.2	215.2	220.8
62.5°	205.1	202.4	197.7	195.9	192.6	190.5	190.5	191.1	193.8	198.6	203.6
65°	182.5	178.6	175.1	173.3	171.2	169.4	169.4	171.8	175.7	180.1	186.4
67.5°	159.3	156.0	153.7	151.9	149.5	148.6	149.5	152.2	156.9	161.4	167.9
70°	134.3	133.8	131.7	129.3	128.1	128.1	129.0	132.0	135.5	142.4	148.0
72.5°	111.5	111.5	110.3	108.8	107.9	108.8	109.4	112.4	116.8	122.8	129.0
75°	90.7	89.8	88.9	88.3	88.0	88.6	89.5	91.8	97.2	102.8	107.9
77.5°	70.1	69.6	68.7	69.3	69.3	69.6	72.2	74.9	77.9	82.3	87.7
80°	50.5	50.8	49.9	49.6	51.1	51.7	53.8	55.9	58.0	63.0	66.9
82.5°	33.3	33.9	33.6	34.2	34.8	34.8	37.2	39.2	41.0	44.6	47.6
85°	19.0	19.3	19.3	20.2	20.8	20.5	22.6	23.8	24.7	27.3	29.1
87.5°	8.3	8.6	8.9	8.9	8.9	10.1	10.4	11.0	11.3	11.9	12.8
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):

	165°	170°	175°	180°
0°	733.0	733.0	733.0	733.0
2.5°	692.3	692.0	693.4	694.3
5°	651.8	650.9	649.7	650.3
7.5°	615.9	613.5	612.9	612.9
10°	584.1	581.7	581.1	580.2
12.5°	557.0	553.4	552.0	550.5
15°	531.4	530.9	527.6	524.3
17.5°	508.0	508.9	505.6	504.1
20°	488.4	485.7	484.5	483.9
22.5°	468.4	466.4	466.4	464.3
25°	450.6	448.8	449.1	447.0
27.5°	434.0	433.7	433.4	432.8
30°	418.5	417.3	416.1	416.7
32.5°	403.6	401.9	401.0	400.7
35°	388.2	387.6	386.4	385.8
37.5°	373.0	373.3	371.8	371.5
40°	356.7	356.4	356.1	355.5
42.5°	339.4	338.5	339.1	338.8
45°	322.2	321.3	321.9	321.0
47.5°	305.3	305.9	305.9	306.1
50°	288.6	289.8	289.8	290.7
52.5°	273.2	275.5	275.5	275.2
55°	256.5	259.2	260.1	260.4
57.5°	240.8	243.4	246.1	246.7
60°	223.8	228.6	231.2	231.8
62.5°	208.7	213.1	216.7	217.0
65°	191.7	197.1	200.3	201.5
67.5°	174.5	178.6	183.1	184.9
70°	154.9	159.9	162.9	164.1
72.5°	134.3	140.0	143.9	144.5
75°	114.7	118.9	121.9	122.5
77.5°	92.4	96.6	99.3	99.9
80°	70.1	73.7	75.5	76.7
82.5°	49.6	52.0	52.9	54.1
85°	30.6	32.4	32.7	32.7
87.5°	13.4	13.7	13.7	14.3
90°	0.0	0.0	0.0	0.0

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