

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: P242806

Luminaire Tested: **S125DR-S610D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242806  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-S610D830-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2249.7 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

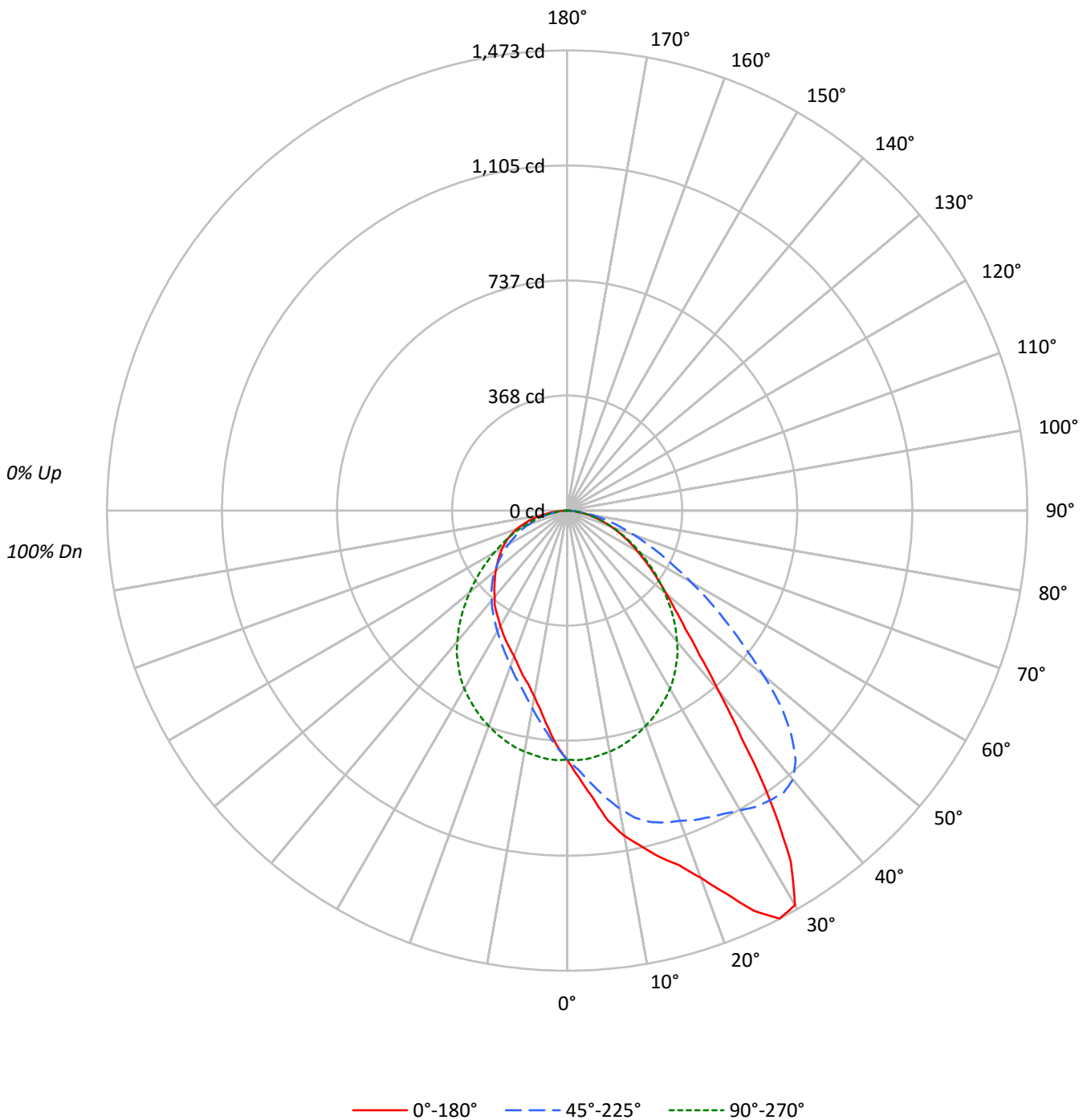
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	90	84	79	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53
5	78	65	56	50	76	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	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	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°	5666	5666	5666
5°	6562	5685	4978
10°	7633	5656	4361
15°	8450	5614	4023
20°	9459	5549	3751
25°	11081	5475	3619
30°	11969	5401	3504
35°	9841	5264	3429
40°	6995	5073	3347
45°	5373	4816	3299
50°	4586	4497	3293
55°	4084	4185	3321
60°	3684	3844	3406
65°	3402	3500	3495
70°	3094	3144	3543
75°	2732	2768	3512
80°	2300	2259	3213
85°	1819	1631	2593



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.7	3.4
10°-20°	228.5	10.2
20°-30°	371.2	16.5
30°-40°	453.7	20.2
40°-50°	411.6	18.3
50°-60°	327.8	14.6
60°-70°	228.3	10.1
70°-80°	121.6	5.4
80°-90°	30.2	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°	676.5	30.1
0°-40°	1130.2	50.2
0°-60°	1869.6	83.1
0°-90°	2249.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2249.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	797	797	797	797	797	
5°	920	876	797	717	698	92
15°	1148	1032	763	579	547	328
25°	1413	1082	698	485	462	647
35°	1134	1132	607	411	395	696
45°	535	1015	479	340	328	425
55°	330	622	338	259	268	296
65°	202	330	208	175	208	201
75°	100	147	101	92	128	107
85°	22	29	20	22	32	26
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°	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2
2.5°	854.7	853.4	852.0	849.3	851.3	845.6	842.9	838.1	832.4	830.4	828.0
5°	919.7	921.4	923.1	916.0	916.6	911.9	901.1	892.3	885.2	876.0	869.6
7.5°	1000.2	995.1	995.5	991.1	983.3	976.9	966.4	951.8	938.6	923.7	910.9
10°	1057.7	1058.1	1055.0	1049.6	1041.2	1035.1	1020.2	1006.0	988.7	968.4	953.9
12.5°	1101.1	1102.7	1098.7	1090.9	1087.9	1072.3	1061.5	1043.9	1022.6	1007.3	983.3
15°	1148.4	1144.7	1142.0	1132.9	1125.8	1111.5	1092.9	1075.3	1053.0	1032.4	1011.7
17.5°	1190.4	1193.4	1189.0	1182.3	1161.3	1144.7	1121.7	1099.4	1072.6	1046.9	1022.9
20°	1250.6	1253.3	1245.5	1231.0	1204.6	1188.0	1155.2	1124.1	1091.9	1056.4	1029.3
22.5°	1325.7	1322.3	1311.2	1287.2	1265.2	1231.0	1194.8	1155.2	1112.9	1071.6	1033.4
25°	1413.0	1398.8	1392.4	1365.0	1334.9	1289.9	1241.1	1185.6	1135.6	1082.4	1036.4
27.5°	1472.6	1466.8	1457.7	1435.4	1400.8	1349.8	1292.2	1225.9	1158.6	1093.6	1035.7
30°	1458.4	1459.0	1459.7	1453.6	1433.3	1397.1	1339.9	1267.2	1183.3	1107.8	1038.1
32.5°	1332.5	1347.7	1362.3	1381.2	1393.4	1393.7	1363.3	1299.3	1212.4	1124.1	1036.8
35°	1134.2	1137.9	1176.2	1214.1	1265.5	1305.4	1332.2	1303.1	1230.3	1131.8	1035.7
37.5°	917.0	935.6	964.4	1007.0	1084.1	1147.1	1229.6	1258.1	1223.9	1138.3	1035.4
40°	753.9	770.8	788.1	831.7	894.3	974.8	1072.0	1154.9	1174.1	1124.1	1025.3
42.5°	628.0	640.5	660.2	690.3	740.0	809.0	900.7	1015.4	1093.9	1082.8	1003.9
45°	534.6	543.1	558.0	584.0	621.9	677.8	759.6	878.1	981.3	1015.4	967.7
47.5°	468.3	468.6	480.8	499.4	528.2	579.6	640.9	738.3	849.6	928.5	917.3
50°	414.8	413.1	422.3	437.8	459.5	491.0	548.8	622.9	728.8	821.2	846.9
52.5°	368.8	369.5	374.2	384.7	402.0	427.7	467.3	532.3	618.9	714.3	768.4
55°	329.6	328.2	334.6	342.4	355.6	373.2	404.4	455.4	528.9	622.3	685.2
57.5°	291.7	295.4	298.1	303.5	315.0	327.2	354.9	394.2	454.8	537.7	604.3
60°	259.2	262.9	264.9	270.4	279.2	289.3	309.6	340.1	389.1	458.2	524.1
62.5°	230.1	232.8	233.1	237.9	244.6	254.5	269.3	293.7	329.9	388.1	452.4
65°	202.3	202.3	203.7	208.8	212.2	221.0	233.1	251.7	282.9	329.9	385.1
67.5°	175.3	177.0	176.6	179.0	182.0	189.5	198.6	214.2	238.9	274.4	320.1
70°	148.9	150.2	149.9	151.6	155.0	159.4	166.5	181.0	197.6	227.0	264.9
72.5°	125.2	125.5	124.5	126.9	128.6	132.3	140.4	146.5	161.7	185.4	214.9
75°	99.5	100.2	100.8	102.2	104.2	106.2	110.3	118.1	128.2	146.9	166.8
77.5°	79.2	77.5	79.5	79.2	80.2	81.9	85.6	90.0	98.8	111.3	127.9
80°	56.2	56.5	56.5	56.8	58.5	59.6	62.6	65.6	72.1	80.9	91.7
82.5°	37.2	38.2	37.6	38.2	39.6	40.3	41.6	44.0	47.0	53.5	60.6
85°	22.3	20.6	21.3	22.0	22.0	22.3	23.7	24.7	26.7	29.4	32.5
87.5°	8.1	8.8	9.1	9.1	9.5	9.5	10.8	10.8	11.8	12.9	14.2
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2
2.5°	826.0	823.6	820.9	816.1	810.4	807.3	802.6	799.6	793.5	788.4	783.0
5°	861.8	853.0	844.9	834.4	822.9	815.5	806.7	796.9	786.7	776.2	764.7
7.5°	897.7	883.1	867.2	850.7	834.4	819.2	805.0	790.4	777.2	760.7	746.8
10°	933.9	914.3	893.3	868.6	844.6	823.6	802.3	783.7	764.7	744.4	726.5
12.5°	970.1	942.4	910.6	882.8	852.7	826.3	800.2	775.2	750.2	727.2	705.5
15°	983.3	960.3	932.9	894.3	861.8	827.0	793.8	763.0	734.3	709.2	682.8
17.5°	996.2	966.7	937.6	900.4	858.1	820.5	783.0	749.5	717.7	686.2	662.2
20°	999.2	968.8	938.0	901.8	858.1	813.4	775.9	733.6	698.7	665.9	634.8
22.5°	998.2	962.7	928.5	890.9	848.6	808.4	761.0	717.7	679.1	647.0	614.1
25°	990.7	953.9	911.9	874.3	832.4	788.7	742.7	698.1	659.5	622.6	590.5
27.5°	986.3	939.7	893.6	850.3	810.1	769.8	725.1	679.1	636.8	599.3	569.5
30°	976.5	924.1	870.6	824.9	783.3	744.4	702.8	658.1	613.5	576.9	544.4
32.5°	967.7	904.5	847.3	796.5	751.9	714.3	676.7	634.8	591.1	553.9	521.4
35°	955.9	885.2	820.5	764.4	717.3	678.4	646.3	606.7	566.4	530.6	499.4
37.5°	942.0	860.1	791.8	733.2	682.2	641.5	611.1	580.3	540.0	504.8	477.1
40°	925.1	833.1	759.6	699.4	645.9	603.3	575.6	546.8	514.7	482.5	452.7
42.5°	903.8	808.7	727.2	661.2	608.4	567.1	537.7	514.3	486.9	457.5	430.4
45°	876.7	778.2	691.6	621.9	568.5	527.5	497.4	479.1	457.8	429.4	406.0
47.5°	840.8	743.7	654.4	582.3	527.2	489.3	460.5	442.6	427.0	404.7	382.7
50°	789.8	704.1	613.5	542.1	486.9	448.7	422.6	406.7	393.9	377.6	359.7
52.5°	732.6	654.4	573.2	502.8	448.3	410.8	385.4	371.9	361.7	351.2	333.6
55°	671.3	603.7	526.5	459.5	409.1	372.2	349.9	337.7	328.9	320.1	309.3
57.5°	605.3	550.5	479.8	417.2	370.5	336.0	315.0	302.5	295.4	290.7	283.9
60°	535.0	489.6	430.7	374.9	329.6	299.8	279.5	270.4	264.6	260.9	256.1
62.5°	469.7	434.5	381.0	331.3	293.0	265.3	247.7	238.9	233.5	232.1	228.4
65°	405.7	376.9	331.9	289.6	255.8	231.8	216.6	208.1	204.7	202.7	203.0
67.5°	341.4	322.8	285.2	248.0	220.3	199.0	186.4	180.0	178.3	175.3	175.3
70°	283.6	270.4	239.9	208.4	184.4	168.8	158.0	151.3	149.6	148.2	147.9
72.5°	232.5	221.3	195.9	172.2	151.3	138.1	129.6	126.2	123.2	122.5	122.5
75°	182.4	176.0	155.0	135.0	120.1	110.6	104.6	100.8	98.8	98.5	98.8
77.5°	137.7	131.6	117.1	102.2	92.4	84.9	79.2	78.2	75.5	75.8	75.1
80°	97.5	93.7	85.3	74.1	66.3	60.2	57.5	55.2	54.5	53.5	54.5
82.5°	64.0	59.9	54.8	48.7	42.6	39.6	36.9	36.5	36.2	35.9	35.9
85°	34.9	35.2	31.8	26.4	23.7	21.7	20.0	20.0	19.6	19.3	19.6
87.5°	14.9	14.2	12.9	11.8	10.2	9.1	8.8	9.1	8.1	7.8	8.1
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°	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2	797.2
2.5°	779.9	776.2	773.2	766.4	762.7	757.6	753.5	757.9	753.2	755.2	752.2
5°	759.0	749.5	742.7	732.9	724.4	716.7	710.9	709.9	707.2	705.8	701.8
7.5°	733.9	723.1	711.9	699.7	689.6	678.8	672.3	666.2	662.5	657.8	654.1
10°	712.3	696.4	682.8	667.3	653.7	641.9	632.4	627.7	623.3	616.8	614.5
12.5°	685.5	669.0	651.7	634.8	621.9	608.4	600.6	592.8	590.1	582.7	582.3
15°	665.2	640.5	624.3	607.4	589.4	578.6	571.8	564.1	560.7	555.6	551.9
17.5°	640.2	617.9	597.6	580.3	564.1	555.3	546.5	541.1	535.3	531.6	525.5
20°	612.4	591.5	571.2	552.6	540.7	530.2	523.5	518.4	512.3	510.6	504.5
22.5°	589.1	565.4	546.1	531.2	518.0	505.9	498.4	495.4	491.7	485.6	485.6
25°	563.4	539.4	522.8	507.2	495.7	484.9	479.8	475.4	471.3	467.6	466.3
27.5°	541.7	520.4	500.1	485.9	476.1	465.9	461.5	455.8	452.7	449.7	445.6
30°	518.7	496.7	479.5	465.9	455.1	446.3	441.6	437.8	435.1	432.4	430.4
32.5°	495.0	475.1	458.5	445.3	434.5	428.4	424.3	421.9	418.9	415.5	412.8
35°	474.7	452.4	436.2	424.7	416.2	411.1	406.4	404.0	400.6	400.6	397.9
37.5°	450.7	431.1	416.5	406.0	398.6	393.9	388.4	387.1	384.7	383.4	382.4
40°	429.7	411.8	398.3	387.8	379.7	375.9	371.9	369.2	367.8	366.1	365.4
42.5°	408.1	391.2	378.3	368.8	362.1	359.0	355.3	353.6	350.6	348.2	347.8
45°	386.1	369.5	357.7	349.9	343.8	340.1	337.7	333.6	332.3	329.6	329.2
47.5°	365.8	349.5	337.7	331.3	325.8	323.1	319.4	315.0	313.3	311.6	311.3
50°	342.4	327.9	317.1	311.0	305.9	301.5	297.8	295.1	294.0	294.0	294.7
52.5°	318.7	306.9	298.1	290.3	285.6	280.8	277.5	276.1	274.4	276.4	277.8
55°	295.7	283.2	276.4	269.3	264.6	259.2	257.5	256.8	255.8	258.5	259.9
57.5°	271.0	262.6	254.5	247.0	242.9	239.6	236.9	236.5	238.6	239.2	243.3
60°	247.7	237.5	230.4	225.0	219.9	217.9	217.2	216.6	217.9	221.6	227.4
62.5°	222.0	214.2	206.4	202.7	199.3	195.6	195.6	196.3	199.3	203.7	209.5
65°	196.9	189.8	184.7	180.0	177.0	174.9	175.6	177.0	180.0	185.8	192.2
67.5°	171.2	166.5	161.7	157.3	154.3	154.6	155.0	156.7	160.4	167.2	173.2
70°	146.5	141.1	137.4	135.7	133.3	132.0	134.0	137.4	140.4	146.5	151.6
72.5°	121.8	117.4	114.7	113.7	113.0	112.0	112.3	116.1	120.5	126.6	132.6
75°	97.5	95.8	93.7	92.4	91.4	92.0	92.7	96.1	99.5	105.9	112.7
77.5°	75.5	73.4	72.1	71.7	71.1	71.4	73.1	75.8	79.2	83.9	89.3
80°	53.8	53.1	52.4	52.1	52.1	52.4	55.2	56.8	59.9	64.3	68.4
82.5°	35.5	35.2	35.2	35.2	35.5	35.5	36.9	39.3	41.6	44.7	48.0
85°	20.6	20.0	21.0	21.3	20.6	21.7	22.3	23.7	24.7	26.4	28.1
87.5°	8.5	9.1	8.8	9.1	9.1	9.8	9.5	10.8	11.5	12.2	11.8
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°	797.2	797.2	797.2	797.2
2.5°	750.2	752.5	750.5	753.2
5°	700.1	697.0	699.1	697.7
7.5°	653.7	651.0	647.0	645.6
10°	610.8	607.0	606.7	604.3
12.5°	579.3	575.9	571.2	570.5
15°	549.8	547.1	544.8	546.8
17.5°	524.8	522.4	521.8	519.7
20°	501.5	499.8	500.4	496.0
22.5°	482.9	479.1	478.5	478.5
25°	463.2	461.5	459.8	461.5
27.5°	446.0	444.3	443.6	443.9
30°	430.4	427.0	427.4	427.0
32.5°	413.5	411.5	410.8	410.1
35°	396.9	396.9	395.2	395.2
37.5°	381.7	381.3	380.3	381.0
40°	364.1	363.7	362.7	360.7
42.5°	347.2	345.8	345.5	345.1
45°	329.2	329.2	328.6	328.2
47.5°	311.6	312.3	313.7	313.3
50°	296.1	296.4	297.4	297.8
52.5°	278.8	281.2	282.5	282.2
55°	262.9	265.3	267.7	268.0
57.5°	247.0	250.1	252.4	253.1
60°	230.8	235.2	238.2	239.6
62.5°	215.2	220.3	223.3	223.3
65°	197.9	203.0	205.7	207.8
67.5°	180.0	185.1	187.8	189.5
70°	160.0	165.1	169.2	170.5
72.5°	140.4	144.8	147.9	149.6
75°	117.1	123.2	126.2	127.9
77.5°	94.7	100.8	102.5	103.5
80°	72.4	75.8	78.2	78.5
82.5°	51.4	54.1	54.5	55.5
85°	30.5	31.8	32.1	31.8
87.5°	12.5	12.2	12.2	12.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)