

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: P332561-935

Luminaire Tested: **S124DIP-S575D810U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332561-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S575D810U935-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4639.8 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

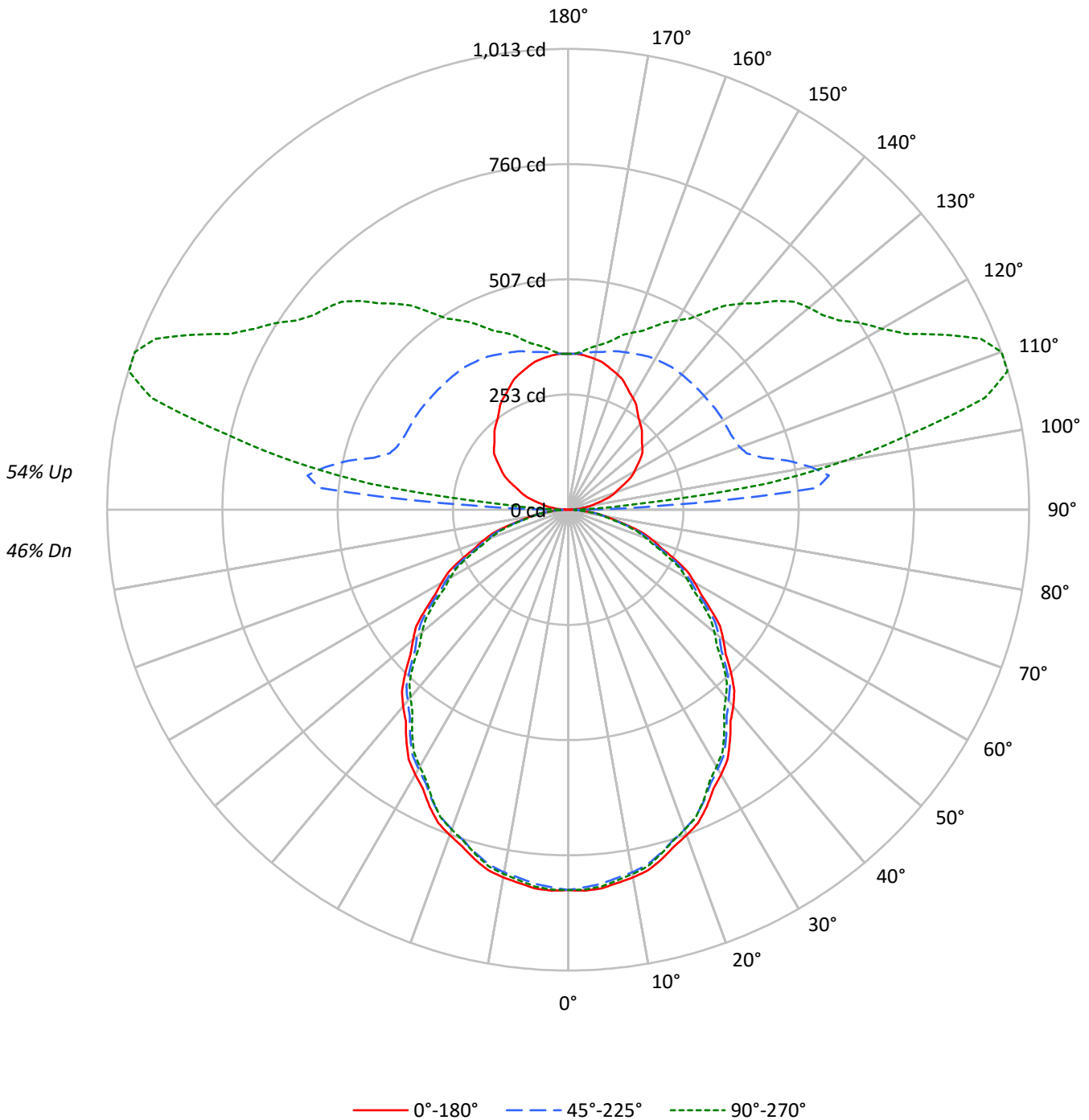
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46																				
1	97	93	89	85	89	85	82	79	71	69	67	58	57	55	47	45	44	39																				
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37	33																				
3	80	71	64	58	74	65	59	54	55	50	46	45	42	39	36	34	32	28																				
4	74	63	55	49	67	58	51	46	49	44	39	40	36	33	32	30	27	24																				
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21																				
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21	18																				
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19	16																				
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17	14																				
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	20	17	15	13																				
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6689	6738
10°	6728	6634	6668
15°	6647	6541	6557
20°	6539	6424	6430
25°	6415	6290	6272
30°	6264	6134	6077
35°	6107	5969	5889
40°	5945	5782	5676
45°	5775	5599	5492
50°	5588	5436	5267
55°	5384	5225	5054
60°	5181	4986	4836
65°	4951	4762	4569
70°	4697	4459	4286
75°	4304	4095	3989
80°	3831	3673	3584
85°	3353	3233	3168



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.7	1.7
10°-20°	221.9	4.8
20°-30°	326.6	7.0
30°-40°	379.6	8.2
40°-50°	379.6	8.2
50°-60°	332.1	7.2
60°-70°	246.6	5.3
70°-80°	140.1	3.0
80°-90°	42.3	0.9
90°-100°	247.5	5.3
100°-110°	515.1	11.1
110°-120°	461.4	9.9
120°-130°	388.1	8.4
130°-140°	323.6	7.0
140°-150°	247.2	5.3
150°-160°	173.8	3.7
160°-170°	102.2	2.2
170°-180°	33.3	0.7
0°-30°	627.2	13.5
0°-40°	1006.8	21.7
0°-60°	1718.5	37.0
0°-90°	2147.6	46.3
90°-120°	1224.0	26.4
90°-150°	2183.0	47.0
90°-180°	2492.0	53.7
0°-180°	4639.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	836	836	836	836	836	
5°	836	833	825	832	832	79
15°	795	792	783	786	784	224
25°	720	715	706	707	704	331
35°	620	615	606	601	598	387
45°	506	501	490	483	481	390
55°	382	380	371	363	359	343
65°	259	256	249	243	239	257
75°	138	135	131	129	128	147
85°	36	36	35	35	34	40
90°	1	5	12	13	14	3
95°	22	70	549	272	164	25
105°	79	114	442	951	947	84
115°	139	174	394	757	910	138
125°	193	230	392	644	726	172
135°	230	273	388	572	649	177
145°	265	303	386	482	530	166
155°	301	325	376	426	444	139
165°	328	338	360	381	387	93
175°	342	343	345	350	349	32
180°	343	343	343	343	343	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1
2.5°	838.3	837.9	837.6	837.2	836.9	836.0	834.7	833.4	832.1	830.8	832.0
5°	835.5	834.9	834.3	833.7	833.1	832.0	830.3	828.7	827.1	825.4	827.1
7.5°	827.7	827.1	826.6	826.0	825.4	824.1	822.3	820.5	818.6	816.8	818.2
10°	820.7	820.2	819.6	819.0	818.4	817.1	815.2	813.2	811.3	809.3	810.5
12.5°	811.7	811.1	810.5	809.9	809.3	808.0	805.9	803.8	801.8	799.7	801.0
15°	795.3	794.7	794.1	793.5	792.9	791.5	789.3	787.0	784.8	782.6	783.4
17.5°	775.6	774.8	774.1	773.4	772.6	771.2	769.0	767.0	764.8	762.8	763.3
20°	761.1	760.3	759.7	758.9	758.1	756.6	754.4	752.2	749.9	747.7	748.1
22.5°	745.5	744.6	743.6	742.6	741.7	740.0	737.8	735.6	733.3	731.1	731.9
25°	720.2	719.2	718.2	717.1	716.1	714.5	712.4	710.3	708.3	706.2	706.4
27.5°	691.3	690.3	689.1	688.1	687.0	685.5	683.5	681.7	679.7	677.8	677.4
30°	672.0	670.8	669.6	668.4	667.3	665.6	663.7	661.8	659.9	658.0	657.4
32.5°	651.6	650.6	649.5	648.4	647.4	645.8	643.8	641.7	639.6	637.6	636.9
35°	619.7	618.7	617.7	616.6	615.6	614.0	611.9	609.8	607.8	605.7	604.6
37.5°	586.1	585.1	584.2	583.2	582.3	580.7	578.5	576.3	574.0	571.8	570.7
40°	564.1	562.9	561.7	560.6	559.4	557.7	555.4	553.2	551.0	548.7	547.3
42.5°	540.5	539.8	539.2	538.4	537.7	536.1	533.6	531.2	528.7	526.2	524.5
45°	505.8	504.8	503.8	502.7	501.7	500.0	497.6	495.2	492.8	490.4	488.8
47.5°	469.5	468.8	468.1	467.4	466.7	465.2	463.0	460.8	458.6	456.4	454.5
50°	444.9	444.3	443.7	443.1	442.5	441.2	439.1	437.0	434.9	432.8	430.8
52.5°	420.8	420.1	419.3	418.6	417.9	416.5	414.2	412.1	409.8	407.6	405.8
55°	382.5	382.1	381.7	381.3	380.8	379.5	377.5	375.3	373.2	371.2	369.4
57.5°	346.1	345.6	345.1	344.6	344.1	342.9	340.8	338.7	336.7	334.6	332.9
60°	320.9	320.2	319.4	318.7	318.0	316.6	314.7	312.7	310.8	308.8	307.5
62.5°	296.3	295.7	295.0	294.4	293.8	292.4	290.4	288.3	286.3	284.2	283.0
65°	259.2	258.6	257.8	257.1	256.3	255.2	253.7	252.2	250.7	249.3	247.7
67.5°	222.1	221.4	220.7	220.0	219.3	218.3	216.8	215.4	214.0	212.5	211.1
70°	199.0	197.9	196.9	195.9	194.8	193.7	192.5	191.3	190.1	188.9	187.8
72.5°	174.4	173.3	172.3	171.2	170.1	169.2	168.2	167.3	166.3	165.3	164.4
75°	138.0	137.2	136.6	135.8	135.0	134.3	133.5	132.8	132.1	131.3	130.7
77.5°	103.3	103.0	102.6	102.4	102.0	101.5	100.8	100.2	99.5	98.9	98.7
80°	82.4	82.0	81.5	81.1	80.6	80.2	80.0	79.6	79.4	79.0	78.8
82.5°	62.1	61.8	61.6	61.4	61.2	61.0	61.0	61.0	60.9	60.9	60.6
85°	36.2	36.2	36.2	36.2	36.2	36.0	35.7	35.5	35.1	34.9	34.9
87.5°	14.0	14.2	14.5	14.6	14.6	14.4	15.1	15.0	15.2	15.3	15.2
90°	0.7	2.0	4.0	4.7	5.4	5.4	9.4	9.4	10.8	12.1	11.5
92.5°	7.7	11.2	17.5	25.7	35.6	49.5	83.8	136.0	186.9	213.5	177.9
95°	22.2	24.2	31.0	39.7	55.9	84.1	142.8	253.1	414.1	548.7	564.2
97.5°	39.9	39.9	45.6	53.7	67.6	91.3	136.4	227.6	387.5	577.9	708.8
100°	51.1	51.1	55.9	64.0	76.7	98.3	138.0	214.1	351.5	541.3	713.6
102.5°	61.9	63.0	67.2	74.7	87.0	107.5	143.4	210.3	327.2	495.5	673.2
105°	78.8	80.8	84.1	92.2	104.4	123.9	156.2	212.1	306.3	441.6	599.9
107.5°	97.4	98.7	102.0	110.6	122.3	141.5	171.2	222.1	302.6	411.5	540.6
110°	109.8	111.1	114.4	122.5	134.7	152.8	182.4	229.5	303.6	401.2	511.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	121.6	123.0	126.8	134.4	146.5	164.7	193.2	237.6	306.9	396.4	494.3
115°	138.7	140.7	145.4	152.1	165.0	183.1	210.1	250.5	313.1	393.8	478.6
117.5°	156.4	158.3	162.6	170.0	181.9	200.8	226.4	263.5	319.7	393.1	471.7
120°	168.3	169.6	174.4	181.8	193.2	212.1	237.6	272.7	324.5	393.1	467.9
122.5°	179.1	180.5	185.1	192.0	204.5	222.8	248.4	281.3	329.3	392.6	463.6
125°	193.2	195.9	199.9	207.3	220.2	239.0	263.2	294.2	336.7	391.8	456.4
127.5°	205.8	207.9	212.8	221.2	234.5	253.6	277.0	305.4	342.4	390.4	446.9
130°	212.8	215.4	220.8	230.9	243.7	263.2	286.1	312.4	346.7	389.8	441.0
132.5°	219.7	221.9	228.9	238.5	252.4	270.8	293.7	319.3	350.5	389.3	435.6
135°	229.5	232.3	239.0	250.5	264.6	282.1	304.3	328.6	356.1	388.5	427.5
137.5°	239.4	241.9	249.3	260.3	274.9	291.6	312.4	335.0	359.5	388.3	420.5
140°	246.4	248.4	255.8	267.3	281.4	297.6	317.8	339.3	362.2	387.8	416.7
142.5°	253.9	256.0	262.9	273.7	287.3	303.0	322.6	342.5	364.4	387.8	413.5
145°	264.6	266.6	273.4	282.8	295.6	310.4	327.9	346.0	365.6	386.4	407.9
147.5°	276.6	277.2	283.2	292.8	303.5	316.8	333.3	349.1	366.3	384.0	403.0
150°	284.1	284.8	290.2	298.3	308.3	321.2	336.0	350.8	366.3	382.4	399.2
152.5°	291.1	291.3	296.6	304.2	313.2	324.9	338.1	351.8	365.2	379.7	394.9
155°	300.9	301.6	305.7	312.4	319.8	329.8	341.3	352.8	363.5	375.7	388.5
157.5°	310.5	310.5	314.3	319.5	326.0	333.9	343.6	352.8	361.8	371.5	381.9
160°	316.4	316.4	319.1	323.8	329.2	336.7	344.7	352.8	360.2	368.2	377.0
162.5°	321.8	321.2	323.4	327.6	332.4	338.2	345.8	352.8	358.6	365.1	372.7
165°	327.9	327.9	329.2	332.6	336.0	340.0	346.0	351.5	355.5	360.2	365.6
167.5°	333.9	333.3	333.9	336.5	338.4	341.5	345.9	349.8	352.2	355.3	359.1
170°	336.7	336.0	336.7	338.6	340.0	342.0	345.3	348.7	350.1	352.1	354.8
172.5°	339.3	338.6	338.8	340.3	341.0	342.5	344.8	347.7	347.9	348.9	351.0
175°	342.0	341.3	341.3	342.0	342.7	342.7	344.1	346.0	345.3	345.3	346.7
177.5°	343.2	342.7	342.2	342.7	342.7	342.7	343.2	344.3	343.2	343.2	343.7
180°	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	836.1	836.1	836.1	836.1	836.1	836.1	836.1	836.1
2.5°	833.2	834.4	835.6	836.1	835.9	835.9	835.8	835.6
5°	828.7	830.3	832.0	832.7	832.3	832.1	831.7	831.5
7.5°	819.5	820.8	822.1	822.7	822.5	822.3	822.2	821.9
10°	811.8	813.0	814.2	814.6	814.2	814.0	813.6	813.4
12.5°	802.4	803.7	804.9	805.4	804.9	804.5	804.2	803.7
15°	784.4	785.2	786.1	786.4	785.9	785.5	785.0	784.5
17.5°	763.9	764.4	765.0	765.1	764.8	764.5	764.2	764.0
20°	748.6	749.1	749.5	749.6	749.2	749.0	748.7	748.4
22.5°	732.7	733.5	734.3	734.4	733.9	733.4	732.9	732.3
25°	706.5	706.6	706.8	706.5	705.9	705.3	704.7	704.1
27.5°	677.1	676.7	676.3	675.8	675.0	674.3	673.6	672.8
30°	656.8	656.2	655.6	654.9	654.1	653.4	652.6	651.9
32.5°	636.1	635.4	634.7	634.0	633.3	632.5	631.7	631.0
35°	603.6	602.5	601.5	600.6	599.9	599.1	598.4	597.6
37.5°	569.6	568.3	567.2	566.2	565.2	564.2	563.3	562.2
40°	545.8	544.2	542.8	541.7	540.9	540.2	539.4	538.6
42.5°	522.8	521.0	519.3	518.1	517.7	517.2	516.7	516.2
45°	487.2	485.5	483.9	482.8	482.4	482.0	481.5	481.0
47.5°	452.7	450.8	449.0	447.5	446.4	445.2	444.1	443.0
50°	428.6	426.5	424.5	423.0	422.1	421.2	420.3	419.4
52.5°	403.9	402.1	400.3	398.7	397.6	396.5	395.4	394.3
55°	367.6	365.8	364.0	362.7	361.8	360.9	360.0	359.1
57.5°	331.2	329.5	327.8	326.5	325.6	324.8	323.9	323.0
60°	306.2	304.9	303.5	302.5	301.7	301.0	300.2	299.5
62.5°	281.8	280.5	279.3	278.4	277.6	276.9	276.1	275.3
65°	246.2	244.8	243.3	242.2	241.4	240.6	240.0	239.2
67.5°	209.7	208.3	206.8	206.0	205.8	205.6	205.3	205.2
70°	186.6	185.4	184.2	183.4	182.9	182.4	182.0	181.6
72.5°	163.4	162.5	161.5	160.8	160.4	160.0	159.5	159.0
75°	130.1	129.5	129.0	128.5	128.4	128.3	128.1	127.9
77.5°	98.5	98.3	98.2	97.9	97.5	97.1	96.7	96.3
80°	78.4	78.2	77.8	77.7	77.5	77.3	77.2	77.1
82.5°	60.4	60.3	60.1	59.9	59.8	59.7	59.5	59.3
85°	34.9	34.9	34.9	34.8	34.6	34.4	34.4	34.2
87.5°	15.3	15.4	15.6	15.6	15.7	15.8	15.7	15.7
90°	12.1	12.8	13.4	13.4	14.1	14.8	14.1	14.1
92.5°	132.2	99.5	79.2	65.7	57.8	54.2	51.8	51.8
95°	498.9	394.5	304.3	239.0	206.0	185.1	173.1	164.3
97.5°	737.0	698.3	632.4	562.1	513.8	473.3	453.1	439.1
100°	811.9	825.4	792.4	742.6	684.0	642.9	622.8	617.3
102.5°	808.1	874.9	884.5	863.8	827.9	798.1	776.8	772.5
105°	754.1	870.5	937.1	964.8	966.1	960.7	951.3	947.3
107.5°	677.2	801.2	895.0	955.0	988.3	1003.7	1010.4	1012.1
110°	630.9	747.3	844.9	918.9	966.7	995.1	1007.2	1013.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	596.9	699.9	792.1	866.2	920.4	954.7	971.6	981.5
115°	562.8	645.7	724.4	789.0	842.2	882.6	904.1	909.6
117.5°	546.1	614.7	676.6	731.4	776.8	810.7	832.5	836.7
120°	538.6	601.2	655.0	702.8	741.2	770.9	788.3	795.7
122.5°	532.1	592.5	641.6	683.5	715.9	741.2	756.0	763.4
125°	521.1	579.0	625.4	662.5	689.4	708.9	721.7	725.7
127.5°	507.6	562.9	609.2	644.5	671.5	688.9	699.6	703.7
130°	496.9	550.0	595.8	631.5	659.1	676.0	686.7	690.8
132.5°	485.5	535.5	580.2	615.9	642.9	661.9	672.2	676.2
135°	469.9	513.7	554.7	588.4	615.4	634.2	645.0	649.0
137.5°	455.8	492.8	527.4	557.8	583.0	601.6	610.4	615.4
140°	447.7	479.3	509.6	538.0	561.5	576.3	585.7	591.1
142.5°	440.1	468.0	494.0	518.5	539.4	553.1	561.5	565.2
145°	429.6	452.5	472.6	491.5	508.3	519.7	526.5	529.9
147.5°	420.8	438.9	455.1	469.9	482.3	492.1	497.2	498.4
150°	415.3	430.8	444.4	456.4	467.3	476.0	480.0	480.7
152.5°	409.5	422.8	435.1	445.1	454.3	461.4	463.8	464.5
155°	400.5	411.4	421.5	429.6	436.3	441.6	443.7	443.7
157.5°	391.0	400.0	408.5	415.0	420.1	424.1	425.3	425.3
160°	385.1	392.5	399.9	405.3	409.3	413.4	414.1	414.1
162.5°	379.2	385.5	391.3	396.1	399.1	403.1	403.8	403.3
165°	370.9	375.0	379.7	383.1	385.7	388.5	387.8	387.1
167.5°	363.0	366.1	369.9	371.9	373.2	375.0	374.9	374.3
170°	358.2	360.2	362.9	364.9	366.3	366.9	366.3	366.3
172.5°	353.9	355.3	357.0	358.4	359.2	359.9	359.2	358.2
175°	348.1	348.7	350.1	350.1	350.1	351.5	350.1	348.7
177.5°	344.3	344.8	344.8	345.3	344.8	345.3	344.3	343.2
180°	342.7	342.7	342.7	342.7	342.7	342.7	342.7	342.7

(END OF REPORT)