

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: P332552-935

Luminaire Tested: **S124DIP-S575D590U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332552-935  
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-S575D590U935-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3965.3 lumens  
Efficiency: N/A  
Efficacy: 120.9 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

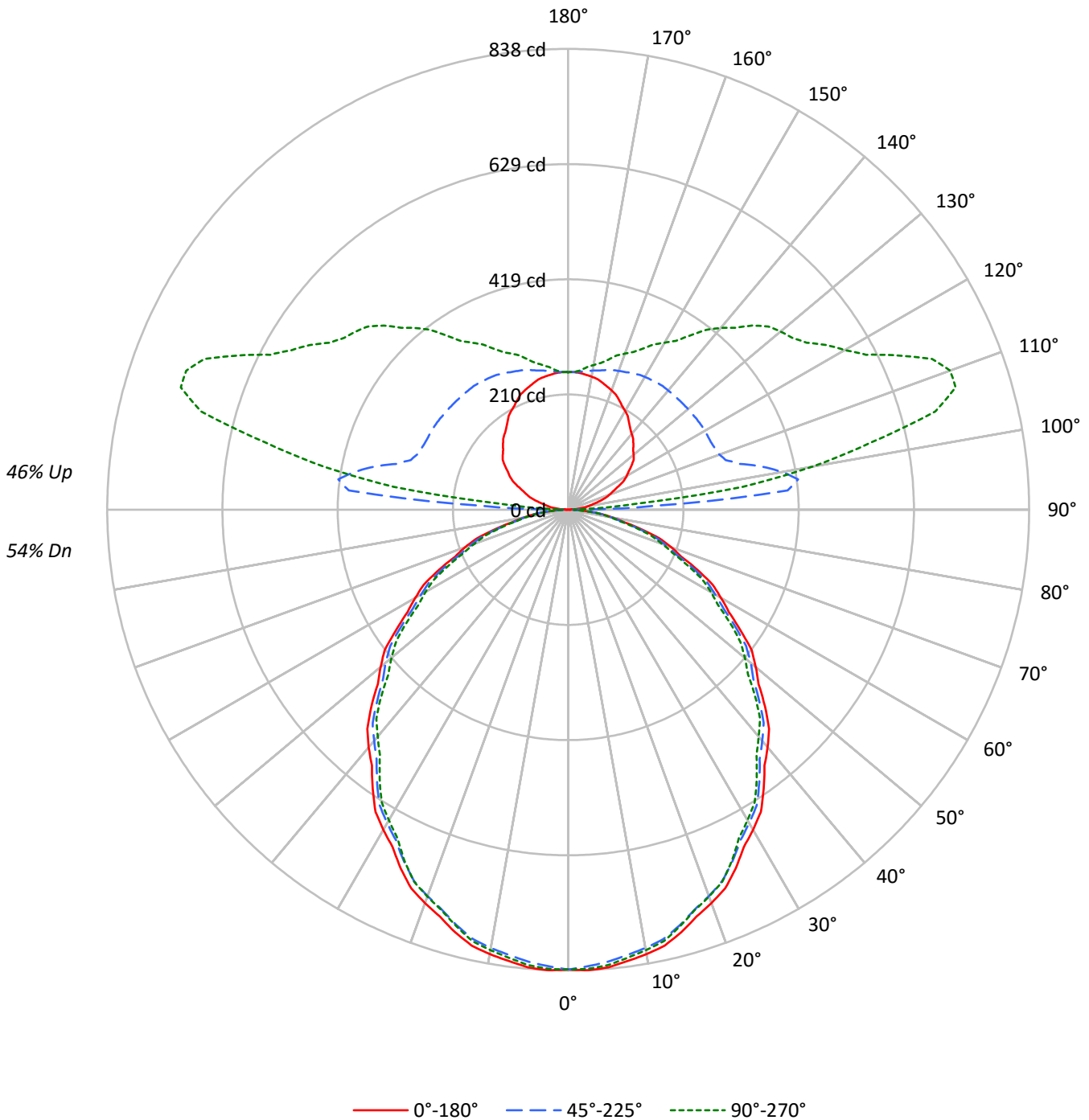
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	99	94	90	87	91	88	84	81	75	73	70	64	62	60	53	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	47	44	43	38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	42	41	39	36	32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28
5	69	57	49	43	64	53	46	41	46	40	36	39	35	32	33	30	27	24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	28	24	21	19
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

**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	2.0
10°-20°	221.9	5.6
20°-30°	326.6	8.2
30°-40°	379.6	9.6
40°-50°	379.6	9.6
50°-60°	332.1	8.4
60°-70°	246.6	6.2
70°-80°	140.1	3.5
80°-90°	41.8	1.1
90°-100°	180.6	4.6
100°-110°	375.8	9.5
110°-120°	336.6	8.5
120°-130°	283.1	7.1
130°-140°	236.1	6.0
140°-150°	180.4	4.5
150°-160°	126.8	3.2
160°-170°	74.6	1.9
170°-180°	24.3	0.6
0°-30°	627.2	15.8
0°-40°	1006.8	25.4
0°-60°	1718.5	43.3
0°-90°	2147.1	54.1
90°-120°	893.0	22.5
90°-150°	1592.6	40.2
90°-180°	1818.0	45.8
0°-180°	3965.3	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°	0	4	9	10	10	3
95°	16	51	400	198	120	18
105°	57	83	322	694	691	61
115°	101	127	287	552	664	100
125°	141	168	286	470	529	125
135°	168	199	283	417	474	129
145°	193	221	282	352	386	121
155°	220	237	274	310	324	101
165°	239	247	263	278	282	68
175°	250	250	252	255	254	24
180°	250	250	250	250	250	



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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	14.1	14.3	14.3	14.2	14.1	14.6	14.5	14.6	14.6	14.6
90°	0.5	1.5	2.9	3.4	4.0	4.0	6.9	6.9	7.8	8.9	8.4
92.5°	5.6	8.2	12.7	18.8	25.9	36.2	61.1	99.2	136.4	155.8	129.8
95°	16.2	17.7	22.6	29.0	40.7	61.4	104.1	184.7	302.0	400.3	411.6
97.5°	29.1	29.1	33.3	39.2	49.3	66.6	99.5	166.0	282.8	421.6	517.1
100°	37.4	37.4	40.7	46.7	56.0	71.7	100.7	156.2	256.4	394.9	520.6
102.5°	45.2	46.0	49.0	54.5	63.5	78.4	104.6	153.4	238.7	361.5	491.1
105°	57.4	59.0	61.4	67.3	76.1	90.4	113.9	154.7	223.5	322.2	437.6
107.5°	71.0	72.0	74.5	80.8	89.2	103.2	124.8	162.0	220.8	300.2	394.4
110°	80.1	81.0	83.5	89.4	98.2	111.5	133.1	167.5	221.5	292.7	372.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.7	89.7	92.6	98.1	106.9	120.1	140.9	173.4	223.9	289.2	360.6
115°	101.2	102.6	106.1	111.0	120.4	133.6	153.3	182.7	228.4	287.3	349.2
117.5°	114.2	115.5	118.6	124.0	132.7	146.5	165.1	192.3	233.2	286.8	344.1
120°	122.8	123.8	127.2	132.6	140.9	154.7	173.4	198.9	236.8	286.8	341.4
122.5°	130.6	131.6	135.1	140.1	149.2	162.6	181.2	205.2	240.3	286.5	338.2
125°	140.9	142.9	145.9	151.3	160.6	174.4	192.0	214.6	245.6	285.9	333.0
127.5°	150.1	151.7	155.2	161.4	171.1	184.9	202.1	222.8	249.8	284.7	326.1
130°	155.2	157.1	161.1	168.5	177.8	192.0	208.7	227.9	253.0	284.4	321.7
132.5°	160.3	161.9	167.0	174.0	184.1	197.5	214.2	233.0	255.7	284.0	317.8
135°	167.5	169.4	174.4	182.7	193.0	205.8	222.0	239.7	259.8	283.4	311.9
137.5°	174.7	176.5	181.9	189.9	200.6	212.8	227.9	244.4	262.3	283.3	306.8
140°	179.8	181.2	186.7	195.0	205.3	217.1	231.9	247.5	264.2	282.9	304.0
142.5°	185.3	186.8	191.7	199.7	209.7	221.0	235.4	249.9	265.8	282.9	301.7
145°	193.0	194.5	199.4	206.3	215.6	226.4	239.2	252.4	266.7	281.9	297.6
147.5°	201.7	202.2	206.6	213.6	221.4	231.2	243.1	254.7	267.2	280.2	294.0
150°	207.2	207.8	211.7	217.6	225.0	234.3	245.1	255.9	267.2	279.0	291.3
152.5°	212.4	212.5	216.4	221.9	228.5	237.0	246.7	256.7	266.4	277.0	288.1
155°	219.6	220.1	223.0	227.9	233.3	240.6	249.0	257.4	265.2	274.1	283.4
157.5°	226.5	226.5	229.3	233.1	237.8	243.6	250.7	257.4	264.0	271.0	278.6
160°	230.8	230.8	232.8	236.3	240.1	245.6	251.5	257.4	262.8	268.6	275.1
162.5°	234.8	234.4	235.9	239.0	242.5	246.8	252.3	257.4	261.6	266.3	271.9
165°	239.2	239.2	240.1	242.6	245.1	248.1	252.4	256.4	259.3	262.8	266.7
167.5°	243.6	243.1	243.6	245.5	246.8	249.1	252.4	255.2	257.0	259.2	262.0
170°	245.6	245.1	245.6	247.0	248.1	249.5	251.9	254.4	255.4	256.8	258.8
172.5°	247.5	247.0	247.1	248.2	248.8	249.9	251.6	253.7	253.8	254.5	256.1
175°	249.5	249.0	249.0	249.5	250.0	250.0	251.0	252.4	251.9	251.9	253.0
177.5°	250.4	250.0	249.6	250.0	250.0	250.0	250.4	251.2	250.4	250.4	250.8
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0



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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°	14.6	14.7	14.8	14.8	14.9	15.1	14.9	14.9
90°	8.9	9.3	9.8	9.8	10.3	10.8	10.3	10.3
92.5°	96.4	72.6	57.8	48.0	42.1	39.5	37.8	37.8
95°	363.9	287.8	222.0	174.4	150.3	135.1	126.2	119.9
97.5°	537.7	509.5	461.4	410.1	374.9	345.3	330.5	320.3
100°	592.4	602.2	578.1	541.7	499.0	469.1	454.3	450.4
102.5°	589.6	638.3	645.3	630.2	603.9	582.2	566.7	563.5
105°	550.1	635.1	683.7	703.9	704.8	700.9	694.0	691.0
107.5°	494.0	584.4	653.0	696.7	721.0	732.2	737.1	738.4
110°	460.2	545.2	616.4	670.5	705.3	725.9	734.8	739.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.5	510.6	577.9	631.9	671.5	696.5	708.9	716.0
115°	410.6	471.1	528.5	575.7	614.4	643.9	659.6	663.6
117.5°	398.4	448.4	493.6	533.6	566.7	591.4	607.3	610.4
120°	393.0	438.6	477.9	512.7	540.8	562.4	575.1	580.6
122.5°	388.2	432.3	468.0	498.6	522.3	540.8	551.6	557.0
125°	380.1	422.4	456.2	483.3	502.9	517.2	526.5	529.4
127.5°	370.3	410.7	444.5	470.1	489.9	502.6	510.4	513.3
130°	362.5	401.3	434.6	460.7	480.9	493.1	501.0	503.9
132.5°	354.2	390.6	423.3	449.3	469.1	482.9	490.3	493.4
135°	342.9	374.8	404.7	429.3	448.9	462.7	470.5	473.5
137.5°	332.5	359.6	384.8	407.0	425.3	438.9	445.4	448.9
140°	326.6	349.7	371.8	392.4	409.7	420.4	427.3	431.3
142.5°	321.2	341.5	360.4	378.3	393.5	403.6	409.7	412.3
145°	313.3	330.0	344.8	358.5	370.8	379.2	384.1	386.5
147.5°	306.9	320.2	332.0	342.9	351.9	359.0	362.7	363.7
150°	303.1	314.4	324.2	333.0	340.9	347.2	350.2	350.7
152.5°	298.7	308.4	317.5	324.8	331.4	336.7	338.4	338.9
155°	292.2	300.1	307.5	313.3	318.3	322.2	323.6	323.6
157.5°	285.2	291.9	298.0	302.7	306.5	309.4	310.3	310.3
160°	280.9	286.4	291.7	295.7	298.6	301.6	302.0	302.0
162.5°	276.6	281.2	285.4	289.0	291.2	294.1	294.6	294.2
165°	270.6	273.5	277.0	279.5	281.5	283.4	282.9	282.4
167.5°	264.8	267.1	269.8	271.3	272.3	273.5	273.5	273.1
170°	261.3	262.8	264.8	266.2	267.2	267.7	267.2	267.2
172.5°	258.1	259.2	260.5	261.5	262.1	262.6	262.1	261.3
175°	253.9	254.4	255.4	255.4	255.4	256.4	255.4	254.4
177.5°	251.2	251.6	251.6	251.9	251.6	251.9	251.2	250.4
180°	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0

(END OF REPORT)