

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: P331257-840

Luminaire Tested: **S122DIP-S290D530U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331257-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S290D530U840-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

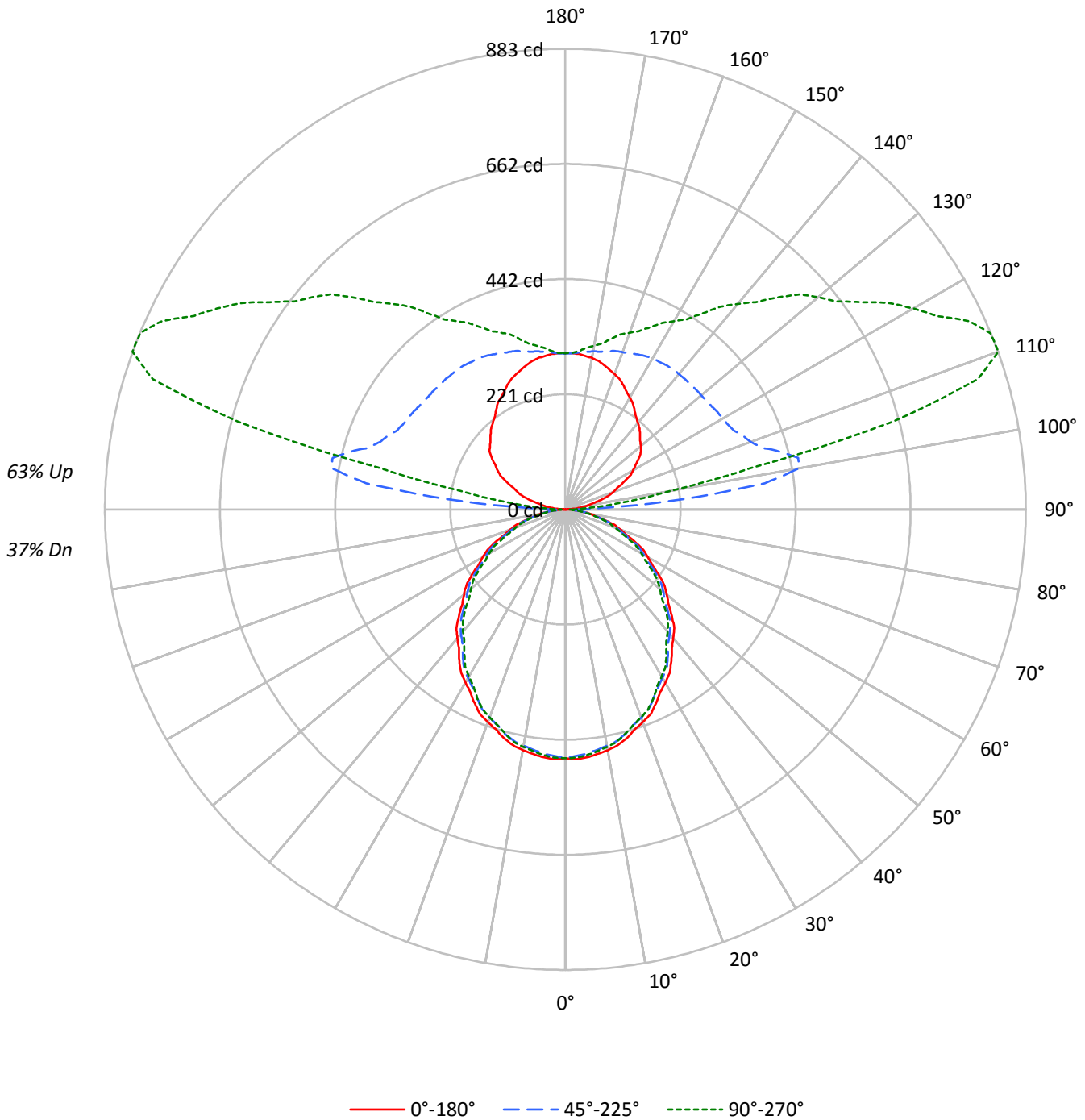
Lumens per Lamp: N/A  
Luminaire Lumens: 3300.4 lumens  
Efficiency: N/A  
Efficacy: 128.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 25.6  
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37	31
2	86	79	73	68	78	72	67	62	58	55	52	46	43	41	34	33	31	26
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	27	22
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	24	22	20	16
6	61	49	41	35	55	45	38	33	37	31	28	29	25	22	22	20	18	14
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	11
9	48	36	29	24	44	33	27	22	28	23	19	22	18	16	17	14	13	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	16	13	11	9

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

	0°	45°	90°
0°	7703	7703	7703
5°	7733	7621	7666
10°	7688	7543	7581
15°	7590	7447	7438
20°	7455	7301	7290
25°	7322	7119	7119
30°	7150	6952	6893
35°	6991	6753	6654
40°	6787	6555	6431
45°	6588	6357	6202
50°	6373	6154	5935
55°	6145	5917	5695
60°	5896	5628	5422
65°	5624	5349	5100
70°	5282	4999	4763
75°	4810	4604	4492
80°	4258	4138	3924
85°	3483	3316	2983



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.9	1.4
10°-20°	126.2	3.8
20°-30°	185.5	5.6
30°-40°	215.5	6.5
40°-50°	215.3	6.5
50°-60°	187.7	5.7
60°-70°	138.8	4.2
70°-80°	78.6	2.4
80°-90°	23.8	0.7
90°-100°	119.7	3.6
100°-110°	406.3	12.3
110°-120°	431.7	13.1
120°-130°	355.4	10.8
130°-140°	285.4	8.6
140°-150°	215.7	6.5
150°-160°	151.6	4.6
160°-170°	89.2	2.7
170°-180°	29.0	0.9
0°-30°	356.6	10.8
0°-40°	572.2	17.3
0°-60°	975.2	29.5
0°-90°	1216.5	36.9
90°-120°	957.8	29.0
90°-150°	1814.1	55.0
90°-180°	2084.0	63.1
0°-180°	3300.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	477	475	470	474	473	45
15°	454	451	446	447	445	128
25°	411	407	400	400	400	189
35°	355	350	343	340	338	221
45°	288	285	278	274	272	223
55°	218	215	210	205	202	195
65°	147	144	140	136	134	146
75°	77	76	74	71	72	82
85°	19	18	18	17	16	22
90°	1	8	20	19	19	2
95°	20	50	226	85	66	21
105°	70	106	427	763	649	75
115°	124	156	357	737	854	123
125°	173	204	343	597	693	153
135°	203	242	339	502	574	157
145°	232	266	338	419	458	145
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	479.3	478.9	478.5	478.1	477.7	477.1	476.2	475.2	474.3	473.4	474.2
5°	477.1	476.7	476.3	475.8	475.4	474.7	473.6	472.5	471.3	470.2	471.0
7.5°	472.9	472.2	471.6	471.0	470.4	469.5	468.4	467.2	466.1	464.9	465.7
10°	468.9	468.2	467.5	466.8	466.0	465.0	463.8	462.6	461.4	460.1	460.9
12.5°	463.3	462.7	462.1	461.4	460.8	459.9	458.7	457.5	456.3	455.0	455.6
15°	454.1	453.5	452.9	452.3	451.7	450.8	449.4	448.1	446.8	445.5	445.9
17.5°	442.4	441.8	441.2	440.6	440.0	439.0	437.7	436.3	434.9	433.6	434.0
20°	433.9	433.3	432.7	432.1	431.5	430.5	429.1	427.7	426.3	424.9	425.2
22.5°	425.6	424.6	423.8	422.9	422.1	421.0	419.7	418.3	417.0	415.7	415.7
25°	411.0	410.2	409.4	408.6	407.8	406.5	404.8	403.0	401.3	399.6	399.8
27.5°	394.6	393.8	393.0	392.3	391.6	390.5	389.2	387.8	386.5	385.1	384.8
30°	383.5	382.7	381.9	381.1	380.2	379.1	377.6	376.1	374.5	372.9	372.6
32.5°	371.7	371.1	370.5	369.8	369.2	368.0	366.4	364.9	363.2	361.6	361.0
35°	354.7	353.6	352.5	351.5	350.5	349.2	347.6	346.0	344.4	342.6	342.0
37.5°	335.3	334.4	333.5	332.5	331.6	330.4	328.8	327.2	325.5	323.9	323.2
40°	322.0	321.2	320.4	319.6	318.8	317.6	315.9	314.3	312.7	311.0	310.1
42.5°	309.2	308.4	307.6	306.8	306.0	304.7	303.1	301.4	299.8	298.2	297.2
45°	288.5	287.8	287.1	286.4	285.7	284.6	283.1	281.6	280.0	278.4	277.3
47.5°	268.0	267.3	266.7	266.0	265.3	264.2	262.6	261.1	259.4	257.8	256.6
50°	253.7	253.2	252.7	252.2	251.7	250.6	249.2	247.8	246.4	245.0	243.6
52.5°	239.7	239.0	238.4	237.7	237.0	236.0	234.7	233.4	232.0	230.7	229.4
55°	218.3	217.7	217.1	216.5	215.9	215.0	213.8	212.6	211.4	210.2	208.8
57.5°	196.9	196.4	195.9	195.4	194.9	194.0	192.7	191.4	190.0	188.6	187.4
60°	182.6	182.2	181.8	181.4	181.0	180.1	178.6	177.2	175.7	174.3	173.2
62.5°	168.6	167.9	167.3	166.7	166.0	165.1	164.0	163.0	161.9	160.8	159.7
65°	147.2	146.6	146.0	145.4	144.8	144.0	143.0	142.0	141.0	140.0	139.0
67.5°	125.5	125.0	124.5	124.0	123.6	122.9	121.9	121.0	120.1	119.2	118.5
70°	111.9	111.5	111.1	110.7	110.3	109.7	108.8	107.9	106.8	105.9	105.2
72.5°	98.0	97.6	97.1	96.7	96.3	95.8	95.2	94.7	94.1	93.5	92.8
75°	77.1	76.9	76.6	76.4	76.2	75.9	75.4	74.8	74.3	73.8	73.2
77.5°	58.4	58.0	57.7	57.4	57.0	56.7	56.5	56.2	56.0	55.8	55.5
80°	45.8	45.7	45.6	45.5	45.4	45.3	45.1	44.9	44.7	44.5	44.2
82.5°	34.1	34.1	34.1	34.0	34.0	33.9	33.8	33.7	33.6	33.5	33.1
85°	18.8	18.7	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.6
87.5°	6.8	6.9	7.2	7.3	7.4	7.5	8.0	8.6	9.1	9.1	8.7
90°	0.6	2.3	4.6	5.8	6.9	8.7	11.5	15.6	19.0	19.6	19.0
92.5°	7.1	10.1	14.2	16.9	20.7	26.2	39.2	57.5	73.8	74.8	63.2
95°	20.2	22.4	28.2	33.4	42.6	56.5	82.9	133.0	199.9	225.8	197.5
97.5°	32.8	36.0	42.0	49.9	60.5	76.1	109.5	179.3	290.2	385.4	404.2
100°	44.3	46.0	51.3	60.5	72.0	88.2	118.7	188.9	313.3	454.9	537.9
102.5°	54.9	56.2	61.4	70.6	82.6	98.7	126.9	189.3	304.6	457.3	587.6
105°	70.3	72.6	76.5	85.2	97.9	114.0	141.1	192.4	287.4	426.8	580.0
107.5°	86.8	88.7	92.6	100.6	113.1	129.4	155.6	200.3	278.8	394.0	529.4
110°	97.9	100.2	103.7	111.2	123.2	140.0	165.3	206.7	277.0	378.4	497.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.1	110.4	114.2	121.3	132.9	150.1	174.5	213.7	277.5	368.2	475.4
115°	123.8	126.7	130.2	137.0	148.6	164.1	188.9	224.0	279.9	357.1	448.1
117.5°	140.2	142.5	145.9	152.1	163.1	179.3	202.2	235.1	284.1	351.6	430.8
120°	150.3	152.6	156.0	161.3	172.8	188.9	211.4	242.5	286.8	348.4	421.6
122.5°	160.0	161.9	165.3	171.0	182.5	199.0	220.2	248.9	290.0	346.6	413.7
125°	172.8	174.5	177.9	184.9	196.4	212.5	233.3	259.1	294.9	343.3	402.5
127.5°	182.9	185.2	190.1	197.6	208.7	225.3	245.5	268.7	299.8	341.3	392.2
130°	188.9	191.2	196.9	205.0	216.5	232.7	252.9	274.7	303.5	340.3	385.3
132.5°	194.4	197.2	203.4	212.0	223.9	240.0	259.2	280.7	307.2	339.9	379.7
135°	202.7	205.0	212.0	220.6	233.8	249.9	268.4	288.5	311.5	339.2	372.0
137.5°	210.6	213.3	220.3	229.4	242.6	257.5	275.8	294.5	315.5	339.1	366.6
140°	216.5	218.8	225.8	235.0	247.6	262.7	279.9	297.7	317.3	338.6	363.5
142.5°	222.6	224.4	230.9	240.0	252.3	266.3	283.2	300.5	318.7	338.6	360.2
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	355.9
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.5
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	477.1	477.1	477.1	477.1	477.1	477.1	477.1	477.1
2.5°	475.0	475.8	476.7	477.1	476.9	476.7	476.6	476.4
5°	471.9	472.7	473.5	473.8	473.6	473.4	473.2	473.0
7.5°	466.6	467.4	468.2	468.5	468.3	468.0	467.8	467.6
10°	461.8	462.6	463.4	463.6	463.3	463.0	462.7	462.4
12.5°	456.2	456.7	457.3	457.5	457.3	457.0	456.8	456.6
15°	446.3	446.7	447.1	447.1	446.6	446.1	445.6	445.0
17.5°	434.5	435.0	435.5	435.5	434.9	434.5	434.0	433.5
20°	425.5	425.8	426.1	426.0	425.6	425.2	424.7	424.3
22.5°	415.8	415.9	415.9	415.8	415.6	415.3	415.1	414.9
25°	400.0	400.2	400.4	400.4	400.2	400.0	399.8	399.6
27.5°	384.5	384.2	383.8	383.4	382.9	382.4	382.0	381.5
30°	372.3	372.0	371.7	371.4	371.0	370.6	370.2	369.7
32.5°	360.5	359.9	359.4	358.9	358.5	358.1	357.7	357.3
35°	341.4	340.8	340.2	339.7	339.2	338.7	338.2	337.6
37.5°	322.3	321.6	320.8	320.2	319.7	319.2	318.8	318.3
40°	309.2	308.3	307.4	306.7	306.3	305.9	305.5	305.1
42.5°	296.2	295.2	294.2	293.4	292.9	292.3	291.8	291.1
45°	276.2	275.1	274.0	273.2	272.8	272.4	272.0	271.6
47.5°	255.5	254.3	253.1	252.2	251.7	251.1	250.4	249.8
50°	242.2	240.7	239.2	238.3	237.8	237.3	236.8	236.3
52.5°	228.3	227.1	225.9	225.0	224.3	223.7	223.0	222.3
55°	207.6	206.4	205.2	204.4	203.9	203.3	202.8	202.3
57.5°	186.2	185.0	183.8	183.0	182.7	182.3	181.9	181.5
60°	172.1	171.0	169.9	169.2	168.8	168.5	168.2	167.9
62.5°	158.6	157.6	156.6	155.9	155.5	155.1	154.7	154.3
65°	138.0	137.1	136.2	135.5	135.0	134.5	134.0	133.5
67.5°	117.8	117.0	116.3	115.7	115.3	114.9	114.5	114.1
70°	104.5	103.8	103.1	102.6	102.2	101.7	101.3	100.9
72.5°	92.1	91.4	90.7	90.1	89.8	89.5	89.2	88.8
75°	72.6	72.0	71.4	71.2	71.4	71.6	71.8	72.0
77.5°	55.2	54.9	54.6	54.3	54.0	53.8	53.5	53.2
80°	43.9	43.6	43.3	43.0	42.8	42.6	42.4	42.2
82.5°	32.7	32.3	31.9	31.7	31.7	31.6	31.6	31.6
85°	17.3	17.0	16.7	16.5	16.4	16.3	16.2	16.1
87.5°	8.4	7.9	7.9	7.8	7.7	7.7	7.6	7.5
90°	18.4	17.3	18.4	19.0	19.0	19.0	19.0	19.0
92.5°	50.2	43.1	38.3	34.6	34.2	32.4	32.8	31.9
95°	150.9	115.7	91.6	78.9	71.4	66.9	65.0	65.6
97.5°	352.1	288.1	225.8	184.2	156.6	142.5	134.1	129.3
100°	525.8	454.4	375.5	305.8	258.0	233.3	216.5	206.2
102.5°	639.6	623.5	565.8	491.9	440.0	397.7	376.9	362.8
105°	699.7	764.8	772.3	753.3	717.6	681.9	657.1	649.0
107.5°	656.4	754.5	814.4	842.2	846.7	844.8	839.8	829.1
110°	619.1	722.2	795.9	843.1	867.9	878.9	884.0	883.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	585.0	684.0	762.8	816.9	851.3	869.6	879.4	882.5
115°	543.1	631.8	707.2	766.6	807.4	833.9	848.9	854.0
117.5°	511.5	589.4	657.8	713.5	755.2	783.2	798.9	803.2
120°	495.8	567.2	628.3	680.8	721.0	748.1	764.8	770.5
122.5°	483.4	548.9	606.6	654.0	690.1	716.8	731.6	736.5
125°	465.3	524.6	575.3	618.5	652.0	673.8	688.2	692.9
127.5°	447.5	501.2	549.0	588.9	617.9	638.4	650.9	654.6
130°	436.0	485.5	531.0	569.0	597.2	616.8	628.3	632.9
132.5°	425.0	470.8	512.6	548.3	576.0	595.6	606.2	610.4
135°	409.5	447.5	485.5	517.8	542.5	561.5	571.9	574.2
137.5°	397.2	429.0	459.1	487.3	509.8	526.1	535.2	538.7
140°	389.3	417.0	443.4	468.8	487.3	502.2	510.8	514.3
142.5°	382.8	406.4	429.2	450.4	467.9	481.5	489.2	489.9
145°	373.8	392.7	410.6	427.4	441.1	450.9	456.7	458.4
147.5°	366.8	381.7	395.7	407.9	419.3	427.1	431.0	432.0
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

(END OF REPORT)