

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: P331626-840

Luminaire Tested: **SA2XXRDIP-C290D530U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331626-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C290D530U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

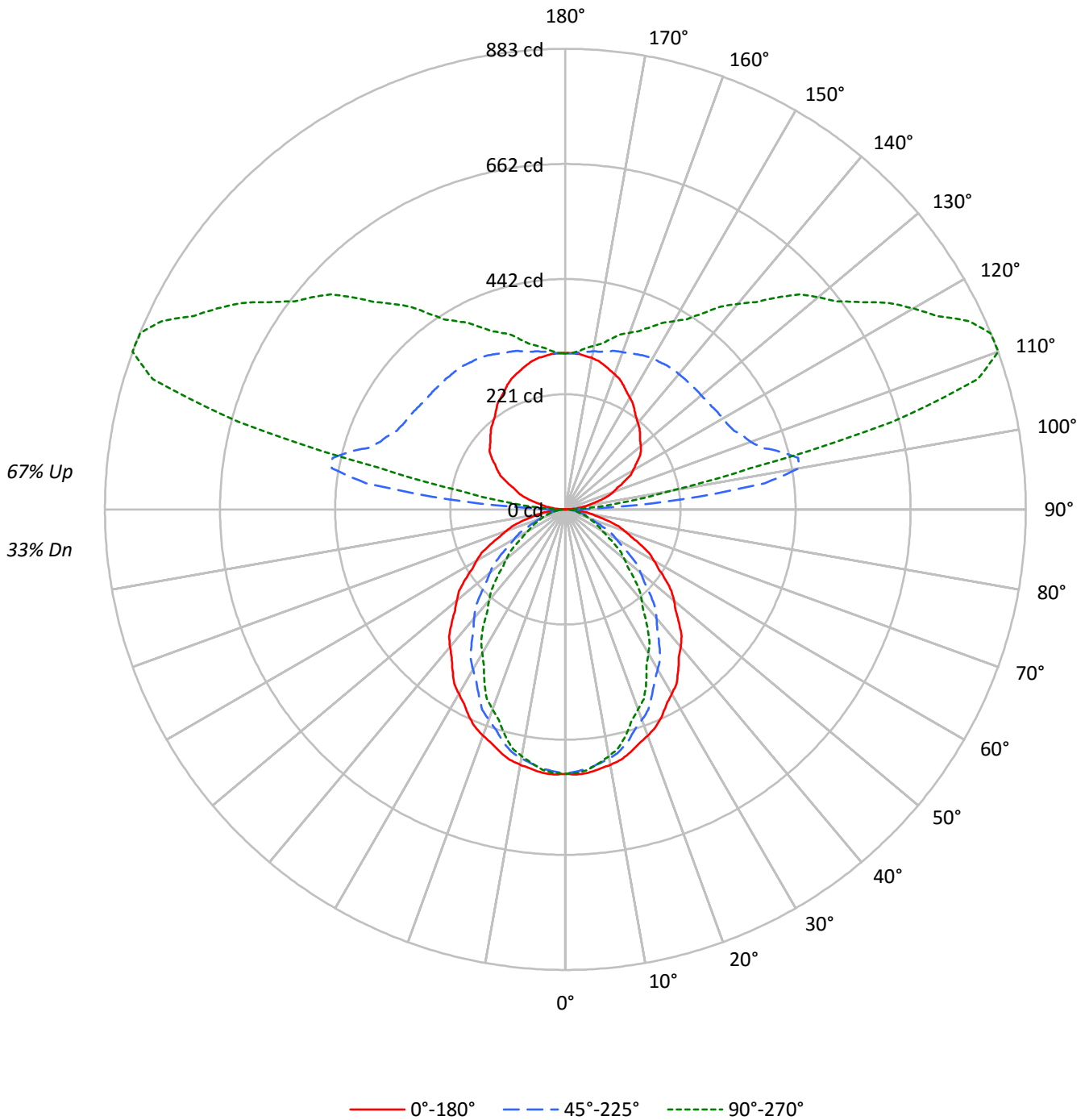
Lumens per Lamp: N/A
Luminaire Lumens: 3129.3 lumens
Efficiency: N/A
Efficacy: 122.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33				
1	94	90	87	83	85	82	78	76	65	63	61	50	49	48	37	36	35	29				
2	86	79	73	68	77	72	67	63	58	54	51	45	42	40	33	31	30	25				
3	79	70	63	57	71	63	57	53	51	47	43	40	37	34	29	27	26	21				
4	72	62	54	49	65	56	50	45	45	41	37	35	32	30	26	24	23	18				
5	66	55	47	42	60	50	44	39	41	36	32	32	29	26	24	22	20	16				
6	61	50	42	36	55	45	38	34	37	32	28	29	25	23	22	19	18	14				
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	20	18	16	13				
8	52	41	33	28	47	37	31	26	30	26	22	24	21	18	18	16	14	12				
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	17	15	13	11				
10	45	34	27	22	41	31	25	21	26	21	18	21	17	15	16	13	12	10				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8186	8186	8186
5°	8217	8083	8126
10°	8153	7950	7883
15°	8058	7714	7492
20°	7930	7378	7009
25°	7798	6996	6538
30°	7612	6604	5936
35°	7433	6177	5409
40°	7253	5735	4795
45°	7040	5236	4242
50°	6822	4735	3697
55°	6598	4197	3178
60°	6339	3630	2638
65°	6044	3049	2399
70°	5698	2511	2209
75°	5265	2289	2059
80°	4649	2046	1878
85°	3649	1612	1612



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.4	1.5
10°-20°	130.3	4.2
20°-30°	183.0	5.8
30°-40°	199.5	6.4
40°-50°	183.4	5.9
50°-60°	144.1	4.6
60°-70°	93.9	3.0
70°-80°	48.4	1.5
80°-90°	15.3	0.5
90°-100°	119.7	3.8
100°-110°	406.3	13.0
110°-120°	431.7	13.8
120°-130°	355.4	11.4
130°-140°	285.4	9.1
140°-150°	215.7	6.9
150°-160°	151.6	4.8
160°-170°	89.2	2.9
170°-180°	29.0	0.9
0°-30°	360.7	11.5
0°-40°	560.2	17.9
0°-60°	887.7	28.4
0°-90°	1045.3	33.4
90°-120°	957.8	30.6
90°-150°	1814.1	58.0
90°-180°	2084.0	66.6
0°-180°	3129.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	507	504	499	502	501	48
15°	482	476	462	453	448	136
25°	438	422	393	375	367	201
35°	377	353	313	285	274	236
45°	308	277	229	198	186	238
55°	234	198	149	123	113	209
65°	158	121	80	65	63	157
75°	84	53	37	34	33	89
85°	20	11	9	9	9	23
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°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	508.8	508.4	508.0	507.6	507.2	506.4	505.5	504.7	503.8	502.9	503.7
5°	507.0	506.4	505.9	505.4	504.9	503.9	502.6	501.3	500.0	498.7	499.6
7.5°	501.7	501.1	500.4	499.8	499.2	498.1	496.6	494.9	493.4	491.9	492.1
10°	497.3	496.6	495.8	495.1	494.4	493.0	491.0	489.0	487.0	484.9	484.6
12.5°	491.8	490.9	490.0	489.2	488.3	486.6	483.9	481.3	478.7	476.1	475.5
15°	482.1	481.0	479.9	478.8	477.7	475.3	471.9	468.5	464.9	461.5	459.6
17.5°	470.3	468.6	466.9	465.1	463.4	460.4	456.0	451.5	447.1	442.6	440.3
20°	461.5	459.5	457.5	455.3	453.3	449.8	444.6	439.6	434.5	429.4	426.9
22.5°	452.0	449.7	447.4	445.1	442.8	438.8	433.0	427.3	421.6	415.9	412.5
25°	437.7	434.3	431.1	427.9	424.6	419.6	412.8	406.2	399.4	392.7	388.5
27.5°	420.4	416.9	413.3	409.8	406.2	400.6	393.0	385.5	377.9	370.3	365.5
30°	408.3	404.5	400.5	396.7	392.8	386.8	378.6	370.5	362.3	354.2	349.0
32.5°	396.6	392.0	387.5	382.9	378.4	372.0	363.8	355.4	347.1	338.7	332.9
35°	377.1	371.9	366.7	361.5	356.3	349.2	340.2	331.2	322.3	313.4	306.9
37.5°	357.7	351.9	346.2	340.5	334.8	327.2	317.6	308.0	298.5	288.9	281.9
40°	344.1	338.0	331.8	325.7	319.6	311.6	301.7	291.9	282.0	272.1	264.8
42.5°	330.1	323.7	317.2	310.8	304.4	296.0	285.8	275.6	265.4	255.2	247.7
45°	308.3	301.4	294.6	287.8	280.9	272.2	261.5	250.7	240.0	229.3	222.2
47.5°	287.0	279.7	272.6	265.3	258.0	248.9	237.8	226.8	215.7	204.7	197.5
50°	271.6	264.4	257.1	249.8	242.7	233.4	222.2	211.0	199.8	188.5	181.5
52.5°	256.5	248.9	241.5	233.9	226.3	217.0	206.0	195.1	184.1	173.1	166.3
55°	234.4	226.5	218.5	210.6	202.6	193.2	182.1	171.1	160.1	149.1	143.0
57.5°	211.8	203.6	195.4	187.3	179.2	169.8	159.2	148.7	138.0	127.4	121.8
60°	196.3	188.2	180.1	171.9	163.7	154.4	143.9	133.4	122.9	112.4	107.1
62.5°	181.3	173.2	165.0	156.8	148.7	139.6	129.6	119.6	109.6	99.6	94.6
65°	158.2	150.0	141.8	133.5	125.2	116.5	107.3	98.2	89.0	79.8	76.3
67.5°	136.0	127.8	119.7	111.5	103.3	95.0	86.7	78.6	70.3	62.0	60.4
70°	120.7	112.7	104.7	96.8	88.9	81.4	74.3	67.3	60.3	53.2	52.2
72.5°	105.9	98.4	90.7	83.1	75.4	68.9	63.2	57.6	51.9	46.3	45.3
75°	84.4	77.3	70.2	63.0	55.8	50.6	47.1	43.6	40.2	36.7	36.0
77.5°	63.2	57.0	50.7	44.4	38.2	34.2	32.5	30.9	29.2	27.6	27.2
80°	50.0	44.8	39.6	34.4	29.2	26.1	25.0	24.0	23.0	22.0	21.6
82.5°	37.9	33.8	29.8	25.8	21.7	19.3	18.6	17.9	17.2	16.6	16.3
85°	19.7	17.6	15.5	13.3	11.2	9.9	9.6	9.3	9.0	8.7	8.7
87.5°	6.0	5.7	5.5	5.0	4.6	4.6	5.3	6.1	6.8	6.9	6.7
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°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	504.5	505.3	506.1	506.4	506.3	506.1	505.9	505.8
5°	500.5	501.4	502.3	502.6	502.3	502.0	501.7	501.4
7.5°	492.4	492.7	492.9	492.8	492.3	491.7	491.2	490.7
10°	484.3	484.0	483.7	483.2	482.6	482.0	481.4	480.8
12.5°	475.0	474.4	473.9	473.1	472.1	471.1	470.1	469.1
15°	457.7	455.7	453.7	452.3	451.3	450.2	449.2	448.2
17.5°	438.0	435.7	433.4	431.4	429.6	427.9	426.1	424.3
20°	424.3	421.7	419.2	416.8	414.5	412.3	410.1	407.9
22.5°	409.3	406.0	402.7	400.2	398.5	396.9	395.2	393.5
25°	384.4	380.1	376.0	373.1	371.6	370.0	368.5	367.0
27.5°	360.5	355.7	350.8	347.2	344.8	342.3	339.9	337.5
30°	343.8	338.6	333.4	329.4	326.6	323.9	321.1	318.4
32.5°	326.9	320.9	315.0	310.7	308.2	305.6	303.0	300.4
35°	300.5	294.1	287.6	283.3	281.0	278.8	276.6	274.4
37.5°	274.8	267.7	260.6	255.8	253.3	250.6	248.1	245.5
40°	257.6	250.3	243.1	238.1	235.5	232.9	230.1	227.5
42.5°	240.1	232.7	225.2	220.3	217.6	215.1	212.5	210.0
45°	214.9	207.6	200.5	195.6	193.2	190.7	188.2	185.8
47.5°	190.3	183.1	175.9	171.2	169.0	166.7	164.5	162.3
50°	174.5	167.4	160.4	155.8	153.7	151.6	149.4	147.2
52.5°	159.6	152.8	146.0	141.6	139.7	137.6	135.6	133.7
55°	136.8	130.8	124.6	120.6	118.7	116.7	114.8	112.9
57.5°	116.2	110.6	105.0	101.4	99.8	98.2	96.5	94.8
60°	102.0	96.8	91.6	88.2	86.5	84.9	83.3	81.7
62.5°	89.7	84.7	79.8	76.7	75.7	74.8	73.8	72.8
65°	72.9	69.4	65.9	64.0	63.7	63.4	63.1	62.8
67.5°	58.9	57.3	55.6	54.7	54.3	54.0	53.7	53.4
70°	51.2	50.2	49.2	48.5	48.0	47.6	47.2	46.8
72.5°	44.5	43.6	42.8	42.3	42.0	41.8	41.5	41.3
75°	35.2	34.5	33.8	33.4	33.3	33.2	33.1	33.0
77.5°	26.7	26.3	25.9	25.7	25.4	25.2	25.1	24.9
80°	21.2	20.8	20.4	20.2	20.2	20.2	20.2	20.2
82.5°	16.1	15.8	15.6	15.5	15.5	15.5	15.5	15.5
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
87.5°	6.5	6.2	6.3	6.4	6.4	6.4	6.4	6.4
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)