

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: P332275-935

Luminaire Tested: **S123RDIP-S560D365U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332275-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D365U935-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2969.1 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.23
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

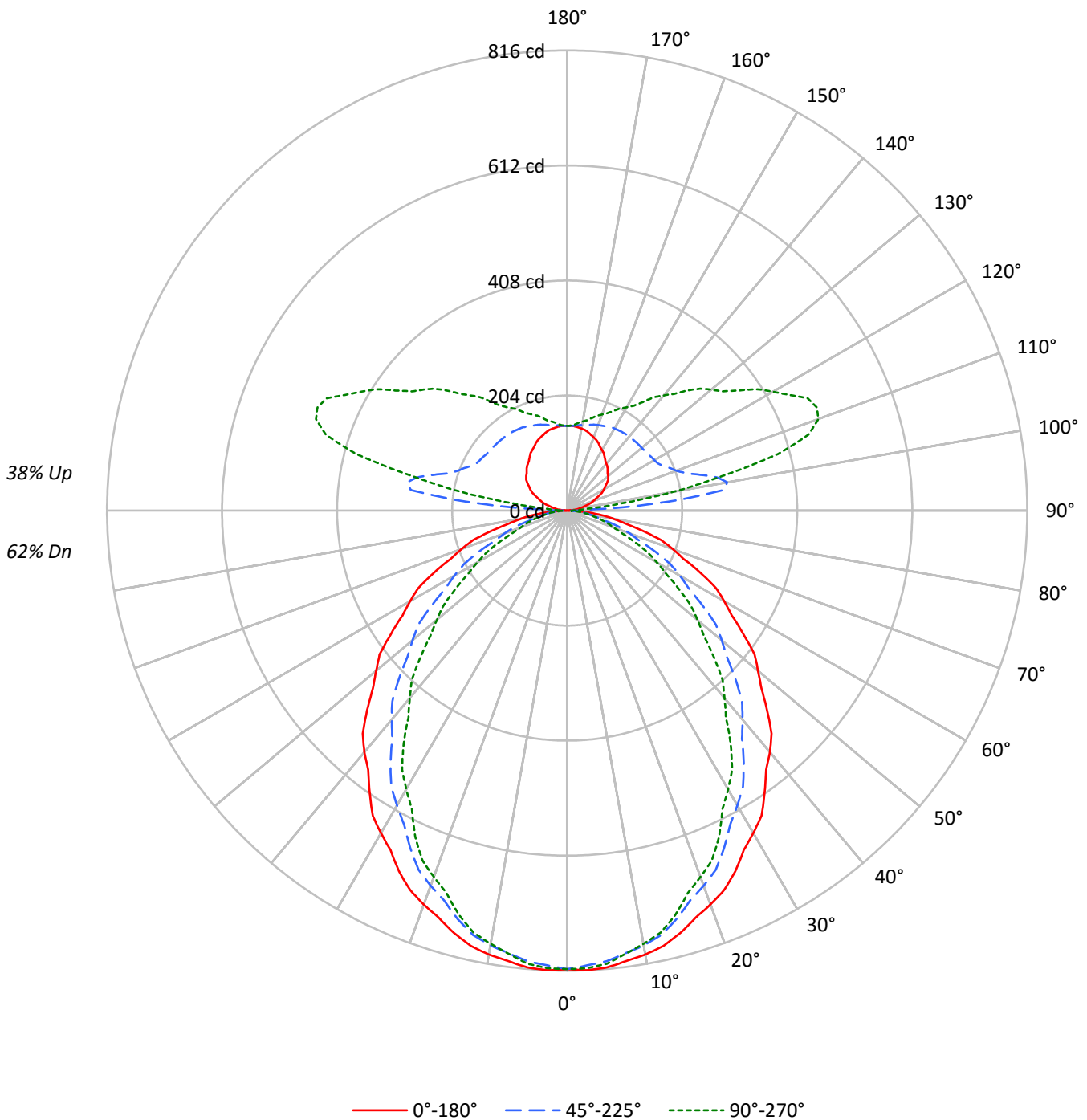
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	101	97	93	89	94	91	87	84	80	77	75	69	68	66	60	59	57	53
2	92	85	79	74	86	80	74	70	70	66	63	61	58	56	53	51	49	45
3	84	75	68	62	79	71	64	59	62	57	53	55	51	48	48	45	42	39
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	39	37	33
5	71	60	51	46	67	56	49	44	50	44	40	44	39	36	39	35	32	29
6	66	54	46	40	61	51	43	38	45	39	35	40	35	32	35	31	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	32	28	25	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	27	24	21	19
10	49	37	30	25	46	36	29	24	32	26	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8753	8753	8753
5°	8787	8666	8715
10°	8737	8557	8528
15°	8643	8357	8269
20°	8514	8107	7918
25°	8381	7826	7574
30°	8206	7501	7091
35°	8025	7176	6646
40°	7859	6794	6097
45°	7640	6416	5602
50°	7400	5987	5047
55°	7156	5495	4530
60°	6928	4969	3961
65°	6635	4401	3393
70°	6266	3695	2738
75°	5731	2907	2578
80°	5114	2579	2368
85°	4323	2272	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	2.6
10°-20°	212.5	7.2
20°-30°	305.9	10.3
30°-40°	344.6	11.6
40°-50°	329.7	11.1
50°-60°	270.0	9.1
60°-70°	182.2	6.1
70°-80°	91.6	3.1
80°-90°	25.4	0.9
90°-100°	83.7	2.8
100°-110°	236.9	8.0
110°-120°	233.0	7.8
120°-130°	185.8	6.3
130°-140°	146.5	4.9
140°-150°	109.4	3.7
150°-160°	76.2	2.6
160°-170°	44.8	1.5
170°-180°	14.6	0.5
0°-30°	594.8	20.0
0°-40°	939.4	31.6
0°-60°	1539.1	51.8
0°-90°	1838.3	61.9
90°-120°	553.5	18.6
90°-150°	995.3	33.5
90°-180°	1131.0	38.1
0°-180°	2969.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	813	810	802	808	807	77
15°	776	768	750	747	742	218
25°	706	688	659	645	638	324
35°	611	586	546	519	506	382
45°	502	471	422	385	368	387
55°	381	348	293	256	241	342
65°	260	223	173	142	133	258
75°	138	106	70	64	62	147
85°	35	21	18	17	17	39
90°	1	4	8	8	9	2
95°	10	34	180	53	35	11
105°	35	52	245	428	387	38
115°	62	78	187	410	471	62
125°	87	102	175	316	371	77
135°	102	121	172	261	301	79
145°	116	133	170	214	235	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	815.9	815.4	814.9	814.4	814.0	813.0	811.7	810.2	808.8	807.4	808.7
5°	813.2	812.5	811.8	811.1	810.3	809.1	807.3	805.6	803.7	802.0	803.3
7.5°	805.7	804.9	804.1	803.3	802.5	801.0	798.7	796.4	794.1	791.9	792.6
10°	799.4	798.3	797.3	796.3	795.3	793.4	790.8	788.2	785.5	782.9	783.0
12.5°	790.4	789.3	788.1	787.0	785.8	783.7	780.4	777.2	774.0	770.8	770.7
15°	775.6	774.0	772.4	770.8	769.2	766.3	762.2	758.1	754.0	749.9	749.2
17.5°	757.0	755.2	753.3	751.4	749.5	746.0	740.7	735.6	730.3	725.1	723.6
20°	743.3	741.0	738.7	736.2	733.9	730.0	724.4	718.8	713.3	707.7	705.8
22.5°	728.0	725.3	722.6	719.9	717.2	712.9	707.0	701.0	695.2	689.2	686.8
25°	705.7	702.1	698.4	694.7	691.0	685.9	679.1	672.4	665.6	658.9	655.8
27.5°	678.6	674.6	670.5	666.5	662.5	656.7	649.2	641.7	634.2	626.7	622.4
30°	660.2	655.8	651.4	647.0	642.7	636.3	628.1	619.9	611.7	603.5	598.5
32.5°	641.7	636.8	631.8	626.8	621.8	615.0	606.3	597.6	588.9	580.2	574.8
35°	610.7	605.5	600.2	595.0	589.6	582.5	573.3	564.3	555.2	546.1	539.8
37.5°	579.4	573.5	567.7	561.7	555.9	548.1	538.4	528.7	519.0	509.3	502.1
40°	559.3	552.8	546.4	539.9	533.5	525.0	514.7	504.3	493.9	483.5	475.8
42.5°	536.6	530.1	523.7	517.3	510.8	502.2	491.5	480.7	469.9	459.2	450.8
45°	501.9	495.3	488.7	482.2	475.5	466.6	455.3	444.0	432.7	421.5	413.1
47.5°	467.2	459.9	452.7	445.5	438.2	429.0	417.7	406.4	395.1	383.8	374.8
50°	441.9	435.0	428.1	421.2	414.3	404.9	393.0	381.3	369.4	357.5	348.4
52.5°	419.2	411.7	404.2	396.7	389.3	379.7	367.9	356.2	344.4	332.7	323.2
55°	381.3	374.0	366.9	359.6	352.5	342.7	330.2	317.8	305.3	292.8	284.3
57.5°	346.1	338.3	330.5	322.6	314.8	304.6	292.1	279.7	267.1	254.6	246.6
60°	321.8	313.8	305.7	297.6	289.6	279.5	267.3	255.2	243.0	230.8	222.9
62.5°	297.6	289.6	281.5	273.4	265.4	255.2	243.1	230.9	218.7	206.6	199.1
65°	260.5	252.4	244.4	236.3	228.3	218.5	207.1	195.7	184.3	172.8	165.7
67.5°	223.4	215.3	207.2	199.0	190.9	181.3	170.3	159.4	148.4	137.4	132.1
70°	199.1	191.2	183.4	175.5	167.6	158.4	148.2	137.9	127.7	117.4	112.3
72.5°	174.9	167.1	159.3	151.5	143.7	135.2	125.9	116.5	107.2	97.9	93.7
75°	137.8	130.8	123.8	116.8	109.7	102.1	94.1	86.0	78.0	69.9	68.4
77.5°	104.1	97.7	91.4	85.0	78.6	72.8	67.7	62.5	57.3	52.1	51.3
80°	82.5	76.5	70.4	64.4	58.4	53.9	50.8	47.7	44.6	41.6	41.1
82.5°	61.9	56.7	51.5	46.3	41.1	37.8	36.3	35.0	33.5	32.0	31.6
85°	35.0	31.8	28.5	25.3	22.0	20.2	19.8	19.4	18.9	18.4	18.2
87.5°	12.7	11.6	10.4	9.3	8.2	7.7	7.8	8.0	8.2	8.4	8.2
90°	0.6	1.2	1.8	2.8	3.4	4.0	4.9	5.8	6.7	7.6	7.3
92.5°	3.8	5.6	8.2	10.5	13.1	17.6	25.6	38.7	51.5	46.8	35.3
95°	10.3	11.3	14.6	19.8	27.7	39.5	65.4	110.7	160.7	180.5	146.4
97.5°	17.7	17.9	20.6	25.1	32.9	45.7	70.4	121.5	204.7	279.7	299.1
100°	22.6	22.8	25.0	29.2	36.5	48.4	69.7	114.7	194.8	288.2	348.1
102.5°	27.6	28.2	30.0	34.1	40.6	51.6	70.7	108.8	180.1	272.3	350.5
105°	35.3	36.2	38.1	41.7	47.4	56.9	73.4	104.7	162.2	244.6	331.9
107.5°	43.5	44.3	46.1	49.7	55.1	63.9	78.4	104.4	150.8	220.2	299.5
110°	49.2	50.2	51.7	55.1	60.3	68.8	82.5	105.6	146.4	206.3	279.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.7	55.5	57.1	60.4	65.6	73.9	86.6	108.1	143.9	197.0	261.2
115°	62.3	63.6	65.4	68.4	73.6	81.9	93.4	111.9	143.0	187.1	239.8
117.5°	70.1	71.5	73.0	75.9	81.6	89.2	100.7	117.2	143.5	181.2	226.8
120°	75.4	76.4	77.9	80.9	86.7	94.3	105.3	121.1	144.6	178.6	220.0
122.5°	80.1	81.0	82.5	85.8	91.4	99.4	110.1	124.8	146.2	176.9	214.4
125°	86.7	87.3	89.1	92.5	98.2	106.5	117.2	130.5	148.8	174.6	207.2
127.5°	91.8	92.6	95.0	98.3	104.7	113.0	123.2	135.3	151.7	173.6	200.9
130°	95.0	95.8	98.6	102.2	108.7	116.8	126.9	138.4	153.7	172.8	197.4
132.5°	97.4	98.5	101.5	105.9	112.3	120.3	130.0	141.4	155.2	172.5	194.3
135°	101.6	102.8	106.2	110.7	117.2	125.4	134.7	145.2	157.3	172.2	190.2
137.5°	105.6	106.9	110.2	115.0	121.4	129.0	138.1	147.9	158.8	171.5	186.6
140°	108.3	109.9	112.9	117.8	123.8	131.5	140.3	149.4	159.7	171.3	184.3
142.5°	111.2	112.5	115.8	120.2	126.3	133.4	142.0	150.8	160.5	170.8	182.4
145°	115.9	116.8	119.6	124.2	129.3	136.3	144.2	152.4	160.9	170.0	179.8
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.3
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	810.0	811.3	812.6	813.1	812.9	812.6	812.4	812.2
5°	804.6	806.0	807.3	807.8	807.5	807.2	806.9	806.6
7.5°	793.3	794.0	794.8	794.9	794.4	793.9	793.4	792.9
10°	783.2	783.3	783.4	783.2	782.5	781.7	781.0	780.2
12.5°	770.6	770.5	770.4	769.9	769.0	768.2	767.4	766.5
15°	748.5	747.7	747.0	746.1	745.0	744.1	743.0	742.0
17.5°	722.0	720.5	718.8	717.4	715.8	714.3	712.7	711.3
20°	703.9	702.0	700.1	698.3	696.5	694.7	692.9	691.2
22.5°	684.5	682.1	679.8	677.7	676.1	674.4	672.8	671.1
25°	652.7	649.6	646.6	644.2	642.7	641.0	639.4	637.7
27.5°	618.1	613.9	609.6	606.2	603.7	601.3	598.8	596.3
30°	593.5	588.5	583.6	579.9	577.6	575.2	572.8	570.5
32.5°	569.4	563.9	558.4	554.5	552.1	549.6	547.1	544.7
35°	533.5	527.2	520.9	516.4	513.8	511.2	508.5	505.8
37.5°	495.0	487.8	480.7	475.5	472.3	469.0	465.7	462.4
40°	468.2	460.5	453.0	447.5	444.1	440.7	437.4	433.9
42.5°	442.6	434.2	425.9	420.2	417.2	414.1	411.1	408.1
45°	404.8	396.4	388.1	382.1	378.6	375.1	371.5	368.0
47.5°	365.7	356.6	347.5	341.4	338.3	335.1	332.0	328.8
50°	339.3	330.2	321.2	314.9	311.5	308.2	304.8	301.4
52.5°	313.8	304.4	294.9	288.7	285.7	282.7	279.7	276.6
55°	275.9	267.3	258.8	253.1	250.2	247.3	244.4	241.4
57.5°	238.5	230.5	222.5	217.2	214.7	212.2	209.7	207.2
60°	215.0	207.1	199.1	194.0	191.5	189.0	186.5	184.0
62.5°	191.7	184.3	176.8	171.8	169.2	166.5	163.9	161.4
65°	158.4	151.3	144.0	139.7	138.1	136.5	134.8	133.2
67.5°	126.7	121.3	116.0	112.4	110.7	109.0	107.3	105.6
70°	107.1	102.0	96.9	93.5	91.9	90.3	88.7	87.0
72.5°	89.5	85.3	81.1	78.7	78.0	77.3	76.6	75.9
75°	67.0	65.5	64.1	63.2	62.9	62.6	62.3	62.0
77.5°	50.5	49.8	48.9	48.4	48.1	47.8	47.5	47.2
80°	40.6	40.2	39.8	39.4	39.2	38.8	38.6	38.2
82.5°	31.2	30.7	30.3	30.0	30.0	30.0	29.9	29.8
85°	17.9	17.6	17.3	17.1	17.1	17.1	17.1	17.1
87.5°	8.2	8.1	8.0	8.0	7.8	7.8	7.7	7.6
90°	7.6	7.9	8.2	8.8	8.5	8.8	9.1	8.8
92.5°	25.7	20.3	17.9	16.4	15.8	14.9	15.2	14.6
95°	109.5	74.2	58.1	47.2	41.4	38.7	36.5	35.3
97.5°	273.0	218.7	179.4	143.1	120.6	106.9	98.7	96.1
100°	358.7	334.1	298.5	255.3	224.5	202.3	190.5	190.8
102.5°	387.2	386.4	365.7	338.3	314.4	296.8	286.9	279.8
105°	395.5	425.9	431.7	423.9	409.8	398.3	388.6	387.0
107.5°	371.5	420.9	447.6	458.5	458.7	454.8	451.5	448.8
110°	348.7	404.7	443.0	464.3	472.9	475.3	474.7	474.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.1	383.2	426.2	453.6	469.2	476.7	479.1	479.1
115°	296.0	349.0	393.7	426.9	449.7	463.0	469.2	470.7
117.5°	274.3	320.0	360.2	393.8	417.7	433.0	441.7	443.8
120°	262.9	303.9	340.4	371.2	395.2	412.2	419.6	421.4
122.5°	253.9	291.0	324.9	353.4	374.8	390.1	398.1	400.5
125°	241.9	275.1	304.3	328.6	348.1	361.4	369.1	371.2
127.5°	231.4	261.0	287.3	309.5	326.8	338.3	345.2	347.1
130°	224.8	252.3	276.9	297.6	313.7	324.7	331.1	333.5
132.5°	218.8	243.9	266.9	286.6	301.8	312.7	318.4	320.1
135°	210.5	232.1	251.9	269.2	284.2	293.3	298.8	300.9
137.5°	203.0	220.8	237.8	252.9	265.4	274.7	279.2	280.7
140°	198.7	214.2	228.8	241.9	253.5	262.0	266.8	266.6
142.5°	194.6	207.8	220.5	231.9	241.8	249.3	253.7	253.4
145°	189.6	199.6	209.3	218.2	225.8	232.1	234.6	235.2
147.5°	185.5	193.5	201.3	207.6	213.4	217.7	220.0	220.2
150°	182.5	189.6	196.0	201.7	206.3	209.7	211.5	211.5
152.5°	179.9	185.9	191.6	196.4	199.9	203.0	204.1	204.1
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)