

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: P331335-840

Luminaire Tested: **SA2XXDIP-C675D330U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331335-840
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: SA2XXDIP-C675D330U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4006.6 lumens
Efficiency: N/A
Efficacy: 114.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

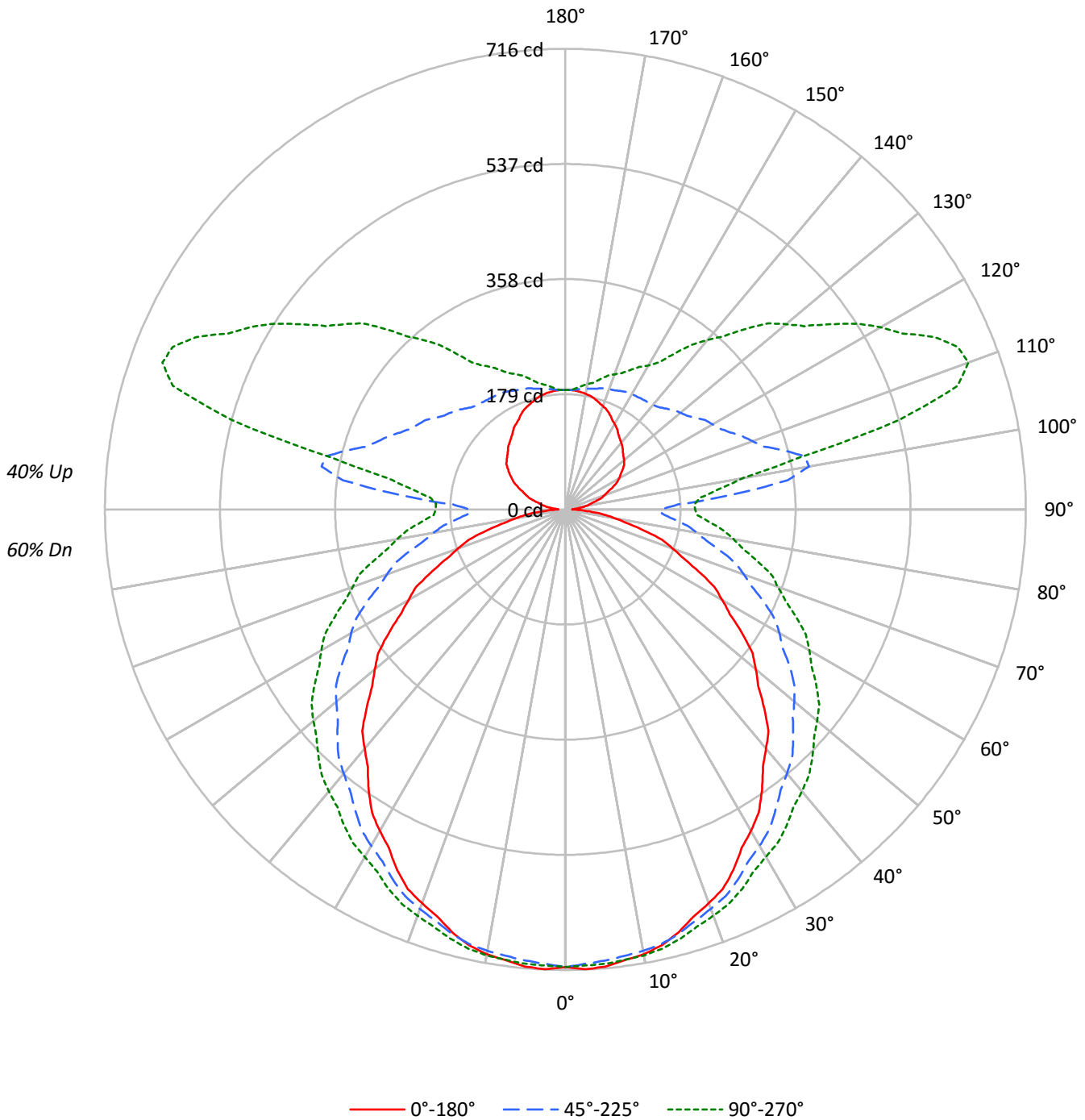
Input Watts (W): 35
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	66	66	66	60
1	98	93	88	84	91	87	83	79	75	72	69	65	62	60	55	53	52	47
2	89	80	73	67	82	75	69	64	65	60	56	56	52	49	47	45	42	38
3	81	70	62	55	75	65	58	52	57	51	46	49	44	41	41	38	35	31
4	73	62	53	46	68	58	50	44	50	44	39	43	38	34	37	33	30	26
5	67	55	46	39	62	51	43	37	45	38	33	39	33	29	33	29	26	23
6	62	49	40	34	57	46	38	32	40	34	29	35	30	26	30	26	22	20
7	57	44	36	30	53	41	34	28	36	30	25	32	26	23	27	23	20	17
8	53	40	32	26	49	38	30	25	33	27	22	29	24	20	25	21	18	15
9	49	37	29	23	46	34	27	22	30	24	20	26	21	18	23	19	16	14
10	46	33	26	21	43	32	25	20	28	22	18	24	20	16	21	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	1.7
10°-20°	193.3	4.8
20°-30°	292.9	7.3
30°-40°	356.7	8.9
40°-50°	383.8	9.6
50°-60°	372.7	9.3
60°-70°	325.4	8.1
70°-80°	250.5	6.3
80°-90°	169.8	4.2
90°-100°	190.0	4.7
100°-110°	336.3	8.4
110°-120°	323.3	8.1
120°-130°	251.3	6.3
130°-140°	189.9	4.7
140°-150°	135.9	3.4
150°-160°	93.9	2.3
160°-170°	55.3	1.4
170°-180°	18.0	0.4
0°-30°	553.6	13.8
0°-40°	910.3	22.7
0°-60°	1666.8	41.6
0°-90°	2412.6	60.2
90°-120°	849.7	21.2
90°-150°	1426.8	35.6
90°-180°	1594.0	39.8
0°-180°	4006.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	11	75	148	187	202	8
95°	21	88	258	209	211	20
105°	49	102	353	596	538	52
115°	81	114	283	548	633	80
125°	109	130	248	432	501	97
135°	127	151	222	343	397	98
145°	143	165	209	266	295	90
155°	163	176	203	230	239	75
165°	178	183	194	206	209	50
175°	185	185	187	189	189	18
180°	186	186	186	186	186	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.3	34.1	48.1	61.9	75.6	90.1	105.0	120.3	135.3	150.1	159.4
90°	10.7	25.0	39.8	53.7	67.8	82.8	99.3	116.4	133.2	148.2	157.0
92.5°	13.8	28.2	43.1	57.1	71.8	88.4	110.6	136.0	160.3	175.0	176.8
95°	20.7	32.9	47.3	61.2	77.8	98.6	128.7	173.5	228.6	258.4	249.6
97.5°	27.6	39.1	52.4	66.9	83.0	104.1	137.9	194.3	276.3	348.5	368.6
100°	34.7	44.2	55.9	70.1	85.7	106.3	138.1	194.5	284.4	385.0	444.8
102.5°	40.4	49.0	59.9	73.4	88.6	108.7	138.6	189.8	273.6	380.6	469.7
105°	48.7	56.8	65.9	77.9	92.4	111.7	140.4	184.0	254.8	353.0	456.0
107.5°	58.8	65.2	72.9	83.2	96.2	114.7	142.4	181.5	241.6	324.4	415.9
110°	64.7	70.8	77.6	86.7	98.8	117.0	144.0	180.9	235.7	309.7	390.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	71.1	76.3	82.6	90.8	101.9	119.8	145.5	180.5	230.8	297.6	371.4
115°	80.8	85.1	89.8	96.6	106.2	122.3	147.9	180.1	225.0	283.1	346.3
117.5°	90.0	93.0	96.8	102.2	110.8	126.3	150.1	180.0	219.8	271.2	327.1
120°	96.2	98.6	101.6	105.7	113.8	128.9	151.9	180.4	217.0	264.3	316.1
122.5°	102.2	103.7	106.2	110.1	117.5	132.4	154.0	180.5	214.6	258.2	306.1
125°	109.1	110.2	112.3	116.6	123.7	137.3	157.5	181.0	210.5	247.7	290.6
127.5°	115.4	116.5	119.4	123.8	130.5	143.6	162.0	182.3	207.4	239.0	276.3
130°	119.1	120.3	123.6	128.4	135.3	147.5	164.9	183.3	205.9	233.6	266.9
132.5°	122.5	124.0	127.6	132.7	139.9	151.6	167.2	184.2	204.3	228.3	258.3
135°	126.6	128.1	132.3	137.6	145.9	157.0	170.8	185.5	202.1	221.5	246.6
137.5°	131.5	133.1	137.3	143.1	151.2	160.9	173.2	185.8	199.9	215.4	236.7
140°	135.2	136.4	140.5	145.9	153.5	162.9	174.1	185.6	198.2	211.9	230.9
142.5°	138.9	139.9	143.6	149.1	156.4	165.0	175.5	186.4	197.7	210.3	226.5
145°	143.4	144.9	148.5	153.8	161.0	168.7	178.4	188.4	198.3	209.0	221.9
147.5°	149.5	150.5	153.9	158.9	164.8	171.8	180.9	189.7	198.6	207.8	218.0
150°	153.4	154.5	157.3	162.0	167.3	173.8	182.0	190.2	198.3	206.9	215.5
152.5°	157.4	157.9	160.8	164.8	170.0	175.7	183.1	190.5	197.8	205.5	213.5
155°	163.1	163.4	165.5	169.5	173.4	178.7	184.8	190.9	196.9	203.0	209.8
157.5°	167.7	168.1	169.9	173.3	176.4	180.9	186.0	190.9	195.3	200.5	206.3
160°	170.9	171.3	172.7	175.5	178.4	182.4	186.6	190.9	194.5	198.7	203.7
162.5°	174.1	173.8	175.3	177.5	180.2	183.2	186.9	190.6	193.6	197.3	201.5
165°	177.7	177.3	178.0	180.2	182.0	184.1	187.3	189.9	192.0	194.5	197.6
167.5°	180.7	180.3	180.9	182.3	183.6	184.9	187.2	189.3	190.4	192.0	194.0
170°	182.7	182.0	182.4	183.4	184.1	185.2	186.9	188.7	189.5	190.6	192.0
172.5°	183.8	183.4	183.2	184.3	184.7	185.5	186.7	187.9	188.3	188.8	190.0
175°	185.2	184.8	184.5	185.2	185.2	185.5	186.2	186.9	186.6	186.9	187.3
177.5°	185.8	185.2	185.0	185.5	185.5	185.5	185.8	186.4	185.8	185.5	185.8
180°	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	168.6	177.8	187.3	193.5	196.4	199.3	202.3	205.2
90°	165.8	174.3	184.2	190.5	193.2	196.0	198.7	201.5
92.5°	177.7	182.3	188.2	192.0	194.4	196.0	199.0	201.2
95°	229.4	216.4	210.2	208.0	206.1	206.0	207.6	210.8
97.5°	344.8	313.6	283.5	263.3	248.9	242.9	240.3	240.0
100°	445.9	410.0	369.6	331.9	304.9	292.1	284.2	280.3
102.5°	510.2	508.5	481.0	440.7	411.0	387.4	377.0	370.7
105°	538.3	586.5	599.3	592.7	573.1	553.5	540.7	538.3
107.5°	502.3	570.7	615.5	637.9	643.2	644.5	644.0	639.9
110°	473.5	544.7	597.7	631.9	649.7	659.0	664.8	666.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	446.6	515.2	571.4	609.9	633.7	647.5	656.1	660.6
115°	412.1	473.9	527.6	569.0	596.8	615.7	627.5	633.3
117.5°	383.8	438.9	488.1	527.1	555.3	574.9	587.0	592.1
120°	368.5	419.2	463.4	500.3	527.9	547.1	560.0	566.0
122.5°	355.5	402.2	444.3	477.9	502.4	521.0	532.4	537.6
125°	335.7	378.7	416.3	447.2	469.9	485.5	496.4	501.4
127.5°	316.2	355.2	390.5	419.0	439.1	453.8	463.5	467.9
130°	303.8	339.9	373.7	400.9	420.2	434.1	443.1	447.8
132.5°	291.6	325.4	356.6	382.2	401.3	415.3	423.6	428.1
135°	274.7	303.1	331.3	354.7	371.8	385.5	393.7	397.0
137.5°	259.8	283.8	306.7	327.0	342.5	354.2	361.4	365.1
140°	250.6	271.4	291.4	309.7	322.4	333.2	339.8	343.4
142.5°	243.5	260.9	278.0	293.3	305.3	314.9	320.8	322.4
145°	234.3	247.5	259.9	271.6	281.2	288.4	293.2	295.4
147.5°	227.6	237.0	245.9	253.8	261.5	266.8	269.8	270.9
150°	224.1	232.0	239.4	245.8	251.2	255.5	257.6	258.0
152.5°	221.0	228.2	234.6	240.1	244.4	248.0	249.6	249.7
155°	216.6	222.3	227.6	231.6	235.5	238.0	239.4	238.7
157.5°	211.6	216.3	220.8	223.9	226.6	228.7	229.3	229.3
160°	208.3	212.3	216.2	218.7	221.3	223.0	223.4	223.4
162.5°	205.2	208.6	212.0	213.9	216.4	217.6	217.9	217.6
165°	200.6	203.0	205.5	206.9	208.3	209.8	209.8	209.4
167.5°	196.0	197.9	199.7	201.0	201.6	202.4	202.3	201.9
170°	193.8	194.8	196.2	196.9	197.3	198.3	198.0	197.3
172.5°	191.2	192.0	193.1	193.5	193.9	194.4	194.0	193.6
175°	188.4	188.7	189.1	189.5	189.5	189.9	189.5	188.7
177.5°	186.4	186.4	186.7	186.7	186.7	186.7	186.4	185.8
180°	185.5	185.5	185.5	185.5	185.5	185.5	185.5	185.5

(END OF REPORT)