

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: P331960-927

Luminaire Tested: **S123DIP-S775D365U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331960-927  
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: S123DIP-S775D365U927-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3600.3 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

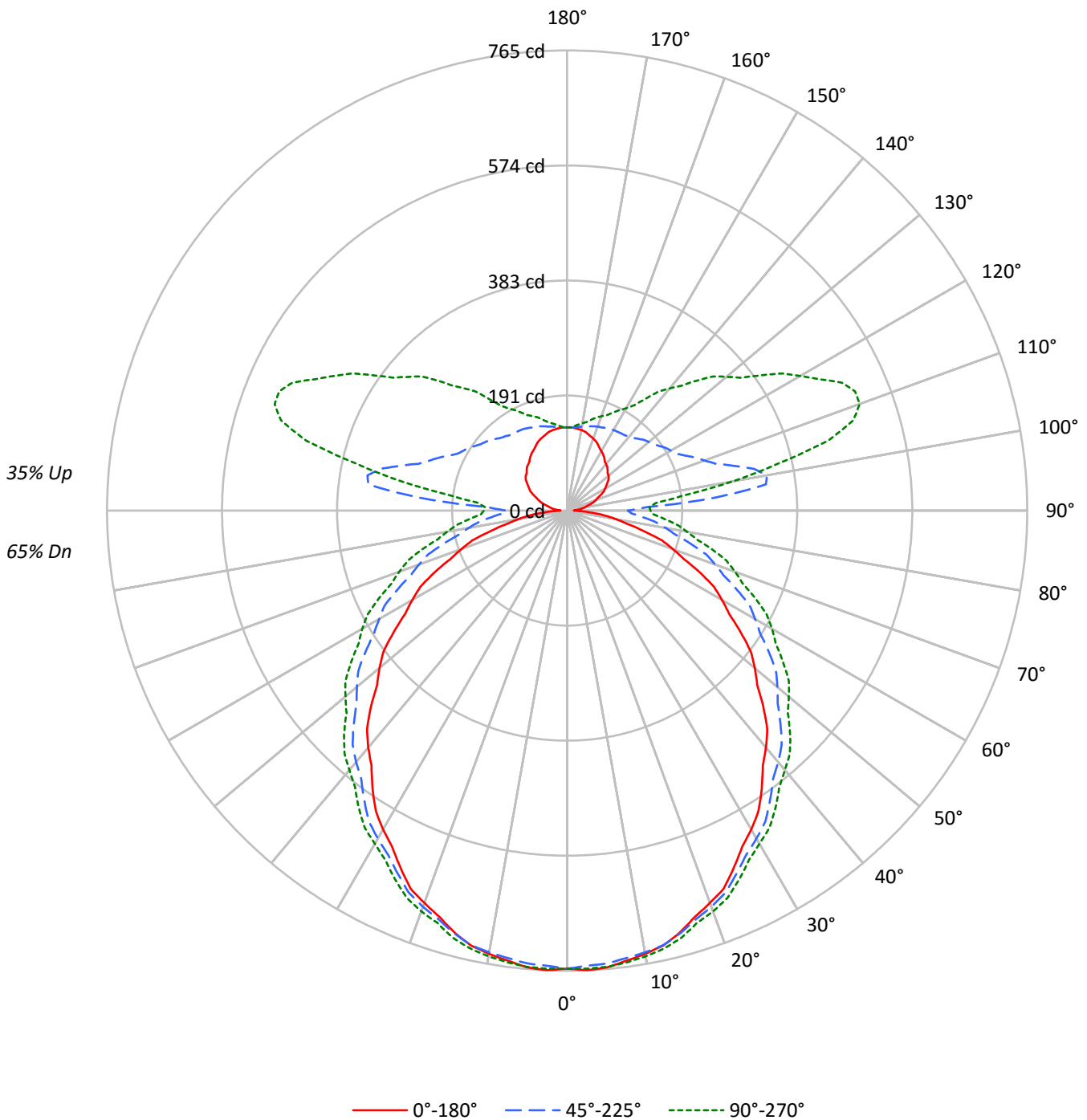
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	94	89	85	82	78	75	73	69	66	64	60	58	56	52
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	46	43
3	82	72	64	57	77	67	60	54	60	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30
5	69	56	48	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	29	25	22
7	59	46	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	25	47	36	29	24	32	26	22	29	24	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	20	27	21	18	24	19	16	14

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

	0°	45°	90°
0°	8196	8196	8196
5°	8222	7990	7994
10°	8148	7806	7766
15°	8043	7597	7518
20°	7893	7358	7245
25°	7708	7084	6957
30°	7517	6836	6666
35°	7305	6575	6434
40°	7102	6337	6184
45°	6877	6109	5986
50°	6655	5883	5766
55°	6409	5652	5569
60°	6171	5417	5366
65°	5924	5168	5126
70°	5555	4887	4879
75°	5090	4566	4628
80°	4551	4249	4341
85°	4050	4032	4175



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.2	2.0
10°-20°	205.8	5.7
20°-30°	307.8	8.5
30°-40°	367.5	10.2
40°-50°	384.5	10.7
50°-60°	360.9	10.0
60°-70°	301.4	8.4
70°-80°	215.6	6.0
80°-90°	129.7	3.6
90°-100°	157.6	4.4
100°-110°	277.2	7.7
110°-120°	254.0	7.1
120°-130°	193.6	5.4
130°-140°	145.0	4.0
140°-150°	102.8	2.9
150°-160°	70.2	1.9
160°-170°	41.2	1.1
170°-180°	13.4	0.4
0°-30°	585.7	16.3
0°-40°	953.3	26.5
0°-60°	1698.6	47.2
0°-90°	2345.3	65.1
90°-120°	688.8	19.1
90°-150°	1130.2	31.4
90°-180°	1255.0	34.9
0°-180°	3600.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	762	760	756	762	761	72
15°	726	728	728	735	735	204
25°	655	663	666	676	677	302
35°	564	577	588	600	604	353
45°	461	481	502	517	524	356
55°	352	379	409	430	438	315
65°	243	276	312	336	345	240
75°	132	171	212	239	250	141
85°	41	82	126	153	163	43
90°	11	55	101	129	138	8
95°	19	73	248	155	149	17
105°	39	75	287	478	449	41
115°	62	87	216	441	504	61
125°	82	98	187	334	391	73
135°	95	113	168	264	306	74
145°	108	122	156	203	226	67
155°	121	131	152	172	179	56
165°	132	136	145	154	156	37
175°	138	138	139	141	141	13
180°	138	138	138	138	138	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	764.8	764.3	763.9	763.4	763.0	762.2	761.0	759.9	758.7	757.5	758.7
5°	762.3	761.9	761.5	761.2	760.8	760.1	759.0	757.9	756.8	755.7	757.2
7.5°	754.8	754.9	754.9	755.0	755.1	754.6	753.5	752.5	751.4	750.4	752.2
10°	748.2	748.5	748.9	749.3	749.6	749.4	748.5	747.6	746.6	745.7	747.6
12.5°	740.2	740.8	741.2	741.8	742.3	742.3	741.6	741.0	740.4	739.7	741.4
15°	725.8	726.4	726.9	727.5	728.0	728.2	728.0	727.9	727.6	727.5	729.3
17.5°	707.6	708.7	709.8	710.8	711.9	712.5	712.4	712.3	712.3	712.2	713.8
20°	694.3	695.4	696.5	697.6	698.7	699.4	699.8	700.2	700.5	700.9	702.6
22.5°	680.3	681.4	682.5	683.7	684.8	685.6	686.1	686.6	687.1	687.6	689.8
25°	655.3	657.1	658.9	660.8	662.7	663.8	664.4	665.0	665.5	666.1	668.4
27.5°	630.1	632.2	634.3	636.4	638.5	640.1	641.3	642.5	643.6	644.8	646.9
30°	612.1	614.6	617.0	619.3	621.7	623.7	625.1	626.6	628.1	629.5	631.8
32.5°	592.2	594.9	597.6	600.3	603.0	605.3	607.2	609.2	611.1	613.0	615.4
35°	564.0	567.0	570.0	572.9	575.8	578.5	580.9	583.3	585.7	588.1	590.9
37.5°	534.2	537.5	540.8	544.2	547.5	550.6	553.6	556.5	559.4	562.4	565.5
40°	514.3	517.6	520.9	524.3	527.5	531.1	534.7	538.4	542.1	545.8	548.9
42.5°	492.3	496.5	500.5	504.5	508.6	512.5	516.3	520.2	524.0	527.9	531.3
45°	461.2	465.6	470.0	474.4	478.9	483.4	488.0	492.6	497.3	501.8	505.3
47.5°	428.5	433.6	438.6	443.5	448.5	453.7	459.0	464.2	469.5	474.8	478.7
50°	407.3	412.4	417.6	422.8	427.9	433.3	439.1	444.8	450.5	456.2	460.4
52.5°	384.7	390.1	395.6	401.1	406.5	412.4	418.7	425.0	431.3	437.6	442.0
55°	351.7	357.7	363.8	369.9	376.0	382.4	389.0	395.7	402.3	408.9	413.9
57.5°	319.5	325.8	332.2	338.5	344.9	351.6	358.9	366.2	373.4	380.7	385.7
60°	297.0	303.6	310.2	316.9	323.5	330.6	338.2	345.7	353.2	360.8	366.0
62.5°	275.7	282.5	289.3	296.0	302.9	310.2	318.2	326.2	334.2	342.2	347.4
65°	243.0	250.3	257.4	264.6	271.8	279.4	287.6	295.6	303.8	311.9	317.4
67.5°	209.8	217.5	225.1	232.7	240.3	248.3	256.6	264.8	273.1	281.4	287.4
70°	186.6	194.6	202.5	210.4	218.3	226.7	235.6	244.4	253.3	262.1	268.0
72.5°	165.4	173.3	181.3	189.2	197.1	205.7	214.8	223.9	233.1	242.2	248.3
75°	131.9	140.5	149.2	157.9	166.5	175.5	184.7	193.9	203.1	212.4	218.4
77.5°	102.7	111.5	120.2	128.9	137.6	146.6	156.0	165.2	174.5	183.8	190.2
80°	82.1	91.2	100.2	109.2	118.3	127.5	137.1	146.7	156.3	165.9	172.1
82.5°	64.2	73.4	82.5	91.7	100.9	110.4	120.1	129.8	139.6	149.3	155.6
85°	40.6	49.8	59.1	68.3	77.5	87.0	96.8	106.5	116.3	126.1	132.4
87.5°	22.2	31.4	40.8	50.1	59.4	68.8	78.3	87.9	97.5	107.1	113.3
90°	11.3	20.9	30.5	40.4	50.0	59.7	70.0	80.2	90.5	100.8	106.7
92.5°	13.6	23.4	33.9	44.3	54.7	67.6	84.2	105.4	126.5	131.5	127.0
95°	18.6	26.7	36.9	48.9	63.4	82.4	115.2	166.0	220.9	248.1	222.5
97.5°	24.4	31.1	40.0	50.7	64.3	83.7	115.0	170.7	255.9	333.4	356.9
100°	28.2	34.4	42.2	52.0	64.6	82.8	110.8	160.7	242.9	337.2	397.8
102.5°	32.2	38.0	45.1	54.1	65.4	82.3	108.2	151.7	225.6	318.7	395.9
105°	39.1	44.4	50.5	58.2	68.0	82.9	105.9	142.7	203.5	287.2	372.8
107.5°	45.6	50.2	55.6	62.7	71.4	85.1	105.9	137.4	187.6	259.0	336.8
110°	50.3	54.5	59.2	65.6	73.7	86.8	106.9	135.5	180.4	242.9	314.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	55.2	58.9	63.0	68.8	76.2	88.7	107.6	134.4	174.4	230.4	294.1
115°	61.6	64.9	68.8	73.8	80.7	92.7	110.0	133.7	168.9	216.1	268.9
117.5°	68.4	71.1	73.9	77.9	84.5	95.3	112.1	133.6	164.0	204.9	251.2
120°	72.7	74.5	76.8	80.6	86.8	97.3	113.4	134.1	161.8	199.2	241.5
122.5°	77.0	78.3	80.2	83.7	89.3	99.8	115.5	134.8	160.3	194.2	232.8
125°	82.3	82.9	84.5	87.6	92.9	103.1	118.3	135.9	158.1	187.2	221.0
127.5°	86.9	87.5	89.4	92.4	98.1	107.8	121.7	137.2	156.7	181.3	210.0
130°	89.8	90.5	92.8	96.0	101.7	111.0	123.9	138.2	155.9	177.3	203.4
132.5°	91.4	92.4	95.1	99.1	105.0	113.8	125.7	139.1	154.7	173.7	197.1
135°	95.1	96.1	99.0	103.0	108.7	117.2	127.9	139.4	152.7	168.4	188.2
137.5°	98.7	99.7	102.6	106.9	112.6	120.1	129.6	139.8	150.9	163.8	180.5
140°	100.5	101.9	104.7	109.2	114.8	122.1	130.7	139.7	149.7	160.9	175.7
142.5°	103.1	104.2	107.1	111.0	116.5	122.9	130.9	139.3	148.2	157.8	171.0
145°	107.5	108.1	110.5	114.5	119.1	125.4	132.7	140.2	148.1	156.5	166.9
147.5°	111.1	111.5	114.0	117.6	122.2	127.7	134.4	141.2	148.1	155.4	163.5
150°	113.9	114.2	116.5	120.1	124.0	129.0	135.5	141.4	148.1	154.6	161.5
152.5°	116.8	116.9	119.1	122.3	125.8	130.6	136.2	141.8	147.4	153.4	159.7
155°	121.2	121.2	122.9	125.7	128.8	132.7	137.4	142.0	146.7	151.5	157.0
157.5°	124.7	124.9	126.3	128.7	131.3	134.4	138.2	142.2	145.8	149.7	154.0
160°	127.4	127.4	128.5	130.7	132.7	135.5	138.9	142.2	145.3	148.4	152.0
162.5°	129.4	129.4	130.3	132.1	133.8	136.2	139.1	142.0	144.4	147.0	150.0
165°	132.4	132.1	132.7	134.1	135.2	137.2	139.4	141.4	143.1	145.0	147.3
167.5°	134.7	134.4	134.7	135.7	136.5	137.8	139.3	140.9	141.7	143.0	144.7
170°	136.0	135.5	135.8	136.6	137.2	137.8	139.1	140.2	140.9	141.6	143.1
172.5°	137.0	136.6	136.7	137.3	137.6	137.9	139.1	140.1	140.1	140.5	141.5
175°	138.0	137.8	137.4	138.0	138.0	138.3	138.9	139.4	139.1	139.1	139.7
177.5°	138.6	138.3	138.1	138.3	138.3	138.3	138.6	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	759.9	761.0	762.2	762.7	762.6	762.4	762.2	762.2
5°	758.6	760.1	761.5	762.2	762.0	761.8	761.7	761.4
7.5°	754.0	755.9	757.7	758.5	758.3	758.1	757.9	757.6
10°	749.4	751.2	753.0	753.8	753.4	753.0	752.7	752.3
12.5°	743.1	744.8	746.5	747.2	746.8	746.5	746.1	745.7
15°	731.1	733.0	734.8	735.6	735.5	735.3	735.1	734.9
17.5°	715.5	717.2	718.8	719.5	719.3	719.0	718.7	718.5
20°	704.3	705.9	707.6	708.4	708.7	708.8	709.0	709.2
22.5°	691.8	694.0	696.0	697.0	697.0	696.8	696.7	696.6
25°	670.9	673.3	675.7	676.8	676.8	676.8	676.8	676.8
27.5°	649.0	651.0	653.1	654.2	654.3	654.5	654.7	654.8
30°	634.0	636.2	638.4	639.5	639.5	639.5	639.5	639.5
32.5°	617.7	620.0	622.4	623.8	624.2	624.7	625.1	625.6
35°	593.7	596.4	599.1	600.9	601.7	602.4	603.1	603.9
37.5°	568.6	571.8	574.9	576.8	577.3	578.0	578.5	579.2
40°	552.1	555.2	558.3	560.2	561.0	561.7	562.4	563.2
42.5°	534.7	538.1	541.6	543.8	544.9	545.9	546.9	548.0
45°	508.8	512.3	515.9	518.3	519.8	521.3	522.8	524.3
47.5°	482.7	486.6	490.6	493.1	494.2	495.4	496.5	497.6
50°	464.7	468.9	473.2	475.9	477.2	478.5	479.8	481.1
52.5°	446.4	450.8	455.2	458.2	459.8	461.4	463.0	464.5
55°	418.9	423.9	428.8	432.1	433.6	435.0	436.5	438.0
57.5°	390.8	395.8	400.8	404.2	405.9	407.7	409.3	411.1
60°	371.1	376.3	381.4	385.1	387.1	389.1	391.2	393.2
62.5°	352.6	357.7	362.9	366.4	368.3	370.2	372.1	373.9
65°	323.0	328.4	334.0	337.7	339.5	341.4	343.3	345.1
67.5°	293.4	299.5	305.5	309.3	310.9	312.4	314.0	315.5
70°	273.9	279.8	285.7	289.5	291.4	293.3	295.1	297.0
72.5°	254.3	260.3	266.4	270.4	272.2	274.0	275.8	277.7
75°	224.5	230.6	236.7	240.8	243.0	245.3	247.5	249.7
77.5°	196.6	203.0	209.5	213.5	215.2	216.9	218.6	220.3
80°	178.4	184.7	191.0	195.0	196.9	198.7	200.6	202.4
82.5°	161.8	168.1	174.4	178.4	180.3	182.1	183.9	185.8
85°	138.6	144.9	151.1	155.2	157.0	158.9	160.7	162.6
87.5°	119.6	126.0	132.3	136.4	138.2	140.1	142.0	143.8
90°	113.3	119.8	126.4	130.9	132.5	134.7	136.8	138.3
92.5°	124.2	125.5	129.4	131.9	133.1	133.9	135.9	137.0
95°	194.3	167.5	158.4	152.2	148.7	148.0	147.9	148.6
97.5°	338.3	293.8	263.2	233.4	214.6	203.8	198.1	197.6
100°	412.9	395.6	368.2	332.0	305.5	287.0	277.9	280.0
102.5°	434.8	439.3	425.4	403.7	383.6	369.2	361.9	357.4
105°	436.5	469.6	480.1	476.3	465.0	456.1	448.7	449.0
107.5°	408.1	458.5	488.0	501.3	503.1	501.1	499.7	498.8
110°	383.5	439.8	479.8	502.6	511.9	515.6	516.5	517.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.4	415.7	459.9	488.1	504.1	512.7	516.4	518.2
115°	325.2	378.3	423.9	457.3	479.8	493.6	500.7	503.6
117.5°	299.3	345.8	387.1	421.0	444.3	459.9	469.4	472.7
120°	285.2	327.3	365.0	396.1	419.5	436.5	444.5	447.4
122.5°	273.3	311.6	346.8	375.7	396.7	412.1	420.8	424.2
125°	256.8	291.2	321.9	347.0	366.1	379.8	388.0	391.3
127.5°	241.8	272.7	300.6	323.4	340.6	352.4	360.0	363.0
130°	232.1	260.9	287.0	308.3	324.3	335.5	342.5	345.8
132.5°	222.9	249.5	273.9	294.4	309.6	320.9	327.3	330.2
135°	210.3	233.5	255.0	273.1	287.7	297.1	303.0	305.9
137.5°	198.6	217.9	236.4	252.2	264.6	274.1	279.2	281.5
140°	191.6	208.7	224.9	238.8	250.3	259.1	264.5	265.1
142.5°	184.6	199.3	213.4	225.6	235.6	243.4	248.4	249.1
145°	177.4	188.1	198.5	207.7	215.5	222.0	225.1	226.3
147.5°	171.5	179.4	187.0	193.3	199.3	203.9	206.7	207.6
150°	167.9	174.4	180.3	185.8	190.4	193.8	195.8	196.2
152.5°	165.5	171.0	176.3	180.7	184.1	187.0	188.1	188.1
155°	161.8	166.3	170.5	173.8	176.3	178.6	179.2	179.4
157.5°	157.9	161.6	164.9	167.5	169.7	171.3	171.8	171.7
160°	155.7	158.8	161.5	163.5	165.4	167.2	167.2	166.8
162.5°	153.0	155.6	158.2	159.9	161.2	162.6	162.6	162.4
165°	149.5	151.1	153.1	154.6	155.7	156.8	156.5	156.5
167.5°	146.5	147.7	148.9	149.9	150.4	151.1	150.9	150.9
170°	144.4	145.3	146.4	146.9	147.3	147.8	147.5	147.5
172.5°	142.7	143.3	144.2	144.5	144.6	145.1	144.7	144.4
175°	140.2	140.5	141.1	141.1	141.1	141.4	141.1	140.9
177.5°	138.7	138.9	139.2	139.2	138.9	139.2	138.7	138.7
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

(END OF REPORT)