

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: P331960-935

Luminaire Tested: **S123DIP-S775D365U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331960-935  
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: S123DIP-S775D365U935-4F0-1E-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: 3913.1 lumens  
Efficiency: N/A  
Efficacy: 111.8 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

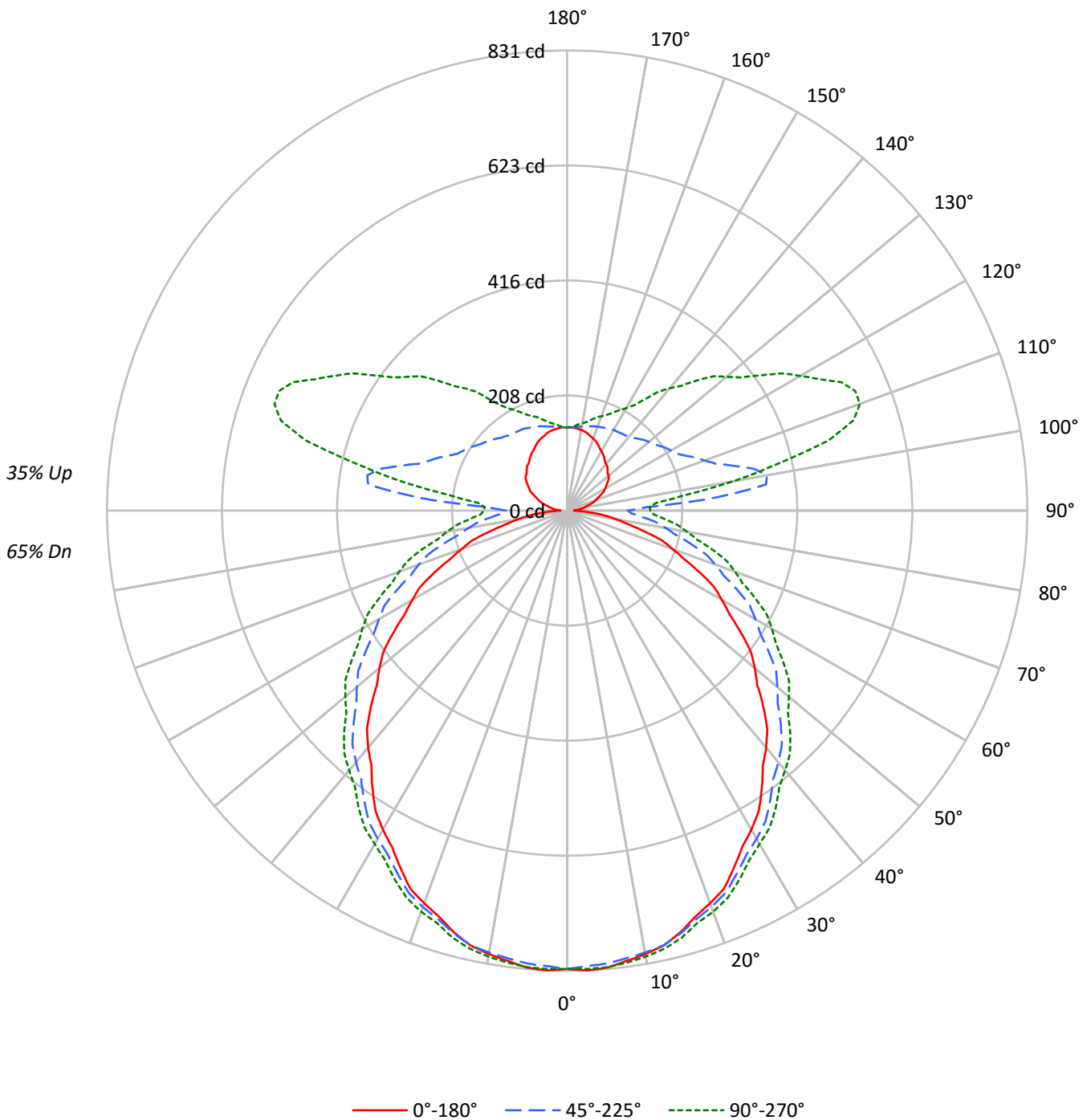
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	2.0
10°-20°	223.7	5.7
20°-30°	334.5	8.5
30°-40°	399.5	10.2
40°-50°	418.0	10.7
50°-60°	392.2	10.0
60°-70°	327.6	8.4
70°-80°	234.4	6.0
80°-90°	140.9	3.6
90°-100°	171.3	4.4
100°-110°	301.3	7.7
110°-120°	276.0	7.1
120°-130°	210.4	5.4
130°-140°	157.6	4.0
140°-150°	111.7	2.9
150°-160°	76.2	1.9
160°-170°	44.8	1.1
170°-180°	14.6	0.4
0°-30°	636.6	16.3
0°-40°	1036.1	26.5
0°-60°	1846.2	47.2
0°-90°	2549.1	65.1
90°-120°	748.7	19.1
90°-150°	1228.4	31.4
90°-180°	1364.0	34.9
0°-180°	3913.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	12	60	110	140	150	9
95°	20	79	270	169	162	19
105°	42	82	312	520	488	45
115°	67	94	235	479	547	66
125°	90	107	204	364	425	80
135°	103	123	183	287	332	80
145°	117	133	170	221	246	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°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.1	34.2	44.3	54.5	64.6	74.7	85.2	95.6	106.0	116.4	123.1
90°	12.3	22.7	33.1	43.9	54.3	64.9	76.1	87.2	98.3	109.5	116.0
92.5°	14.8	25.5	36.9	48.1	59.5	73.4	91.5	114.6	137.5	142.9	138.0
95°	20.2	29.0	40.1	53.1	68.9	89.5	125.2	180.4	240.0	269.7	241.9
97.5°	26.5	33.8	43.5	55.1	69.9	90.9	125.0	185.5	278.1	362.4	387.9
100°	30.7	37.4	45.9	56.6	70.3	90.0	120.5	174.7	264.0	366.5	432.3
102.5°	35.0	41.3	49.0	58.8	71.1	89.5	117.6	164.9	245.2	346.4	430.2
105°	42.5	48.2	54.8	63.3	73.9	90.1	115.1	155.1	221.2	312.2	405.2
107.5°	49.6	54.6	60.4	68.1	77.6	92.5	115.1	149.3	203.9	281.5	366.1
110°	54.7	59.2	64.3	71.3	80.1	94.4	116.1	147.2	196.0	264.0	341.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	60.0	64.0	68.4	74.7	82.8	96.4	116.9	146.0	189.6	250.4	319.7
115°	66.9	70.5	74.7	80.2	87.7	100.7	119.6	145.3	183.6	234.9	292.3
117.5°	74.4	77.3	80.3	84.6	91.9	103.6	121.8	145.2	178.2	222.7	273.0
120°	79.0	81.0	83.5	87.6	94.4	105.7	123.3	145.8	175.8	216.5	262.4
122.5°	83.7	85.2	87.1	91.0	97.0	108.5	125.5	146.5	174.2	211.1	253.0
125°	89.5	90.1	91.9	95.2	101.0	112.1	128.5	147.7	171.9	203.5	240.2
127.5°	94.5	95.1	97.2	100.5	106.6	117.2	132.2	149.1	170.3	197.0	228.3
130°	97.6	98.3	100.9	104.4	110.6	120.6	134.7	150.2	169.4	192.7	221.1
132.5°	99.4	100.5	103.4	107.7	114.1	123.6	136.6	151.2	168.2	188.8	214.2
135°	103.4	104.4	107.6	111.9	118.1	127.3	139.0	151.5	165.9	183.0	204.6
137.5°	107.3	108.4	111.5	116.2	122.3	130.5	140.9	152.0	164.0	178.1	196.2
140°	109.3	110.7	113.8	118.6	124.8	132.7	142.1	151.8	162.7	174.9	191.0
142.5°	112.1	113.2	116.4	120.6	126.6	133.6	142.3	151.4	161.1	171.5	185.8
145°	116.8	117.5	120.1	124.4	129.4	136.3	144.2	152.4	160.9	170.0	181.4
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.7
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°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	130.0	136.9	143.8	148.3	150.2	152.3	154.4	156.3
90°	123.1	130.2	137.3	142.3	144.0	146.4	148.7	150.3
92.5°	135.0	136.4	140.7	143.4	144.6	145.5	147.7	149.0
95°	211.2	182.1	172.2	165.4	161.6	160.8	160.7	161.5
97.5°	367.7	319.3	286.1	253.7	233.2	221.5	215.3	214.7
100°	448.8	430.0	400.2	360.8	332.1	311.9	302.0	304.4
102.5°	472.6	477.4	462.4	438.8	416.9	401.3	393.4	388.4
105°	474.4	510.4	521.8	517.6	505.4	495.7	487.7	488.0
107.5°	443.6	498.3	530.4	544.8	546.8	544.7	543.1	542.1
110°	416.8	478.0	521.5	546.2	556.4	560.4	561.4	562.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	389.5	451.8	499.8	530.5	547.9	557.2	561.3	563.2
115°	353.4	411.2	460.7	497.1	521.5	536.5	544.2	547.3
117.5°	325.3	375.8	420.7	457.5	482.9	499.8	510.1	513.8
120°	310.0	355.7	396.7	430.5	455.9	474.4	483.1	486.3
122.5°	297.0	338.6	376.9	408.4	431.2	447.9	457.4	461.1
125°	279.1	316.5	349.9	377.1	398.0	412.8	421.7	425.2
127.5°	262.8	296.4	326.7	351.5	370.1	383.0	391.2	394.5
130°	252.3	283.5	311.9	335.1	352.5	364.6	372.2	375.8
132.5°	242.3	271.1	297.7	319.9	336.5	348.8	355.8	358.9
135°	228.6	253.8	277.2	296.8	312.7	322.9	329.3	332.4
137.5°	215.9	236.8	256.9	274.1	287.6	297.9	303.5	305.9
140°	208.3	226.8	244.4	259.5	272.1	281.6	287.5	288.2
142.5°	200.6	216.6	232.0	245.2	256.1	264.6	270.0	270.7
145°	192.8	204.4	215.8	225.8	234.2	241.3	244.6	246.0
147.5°	186.4	194.9	203.2	210.1	216.6	221.6	224.6	225.7
150°	182.5	189.6	196.0	201.9	206.9	210.6	212.8	213.3
152.5°	179.9	185.9	191.6	196.4	200.1	203.3	204.4	204.5
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)