

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: P331380-930

Luminaire Tested: **S122DIP-S865D330U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331380-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D330U930-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

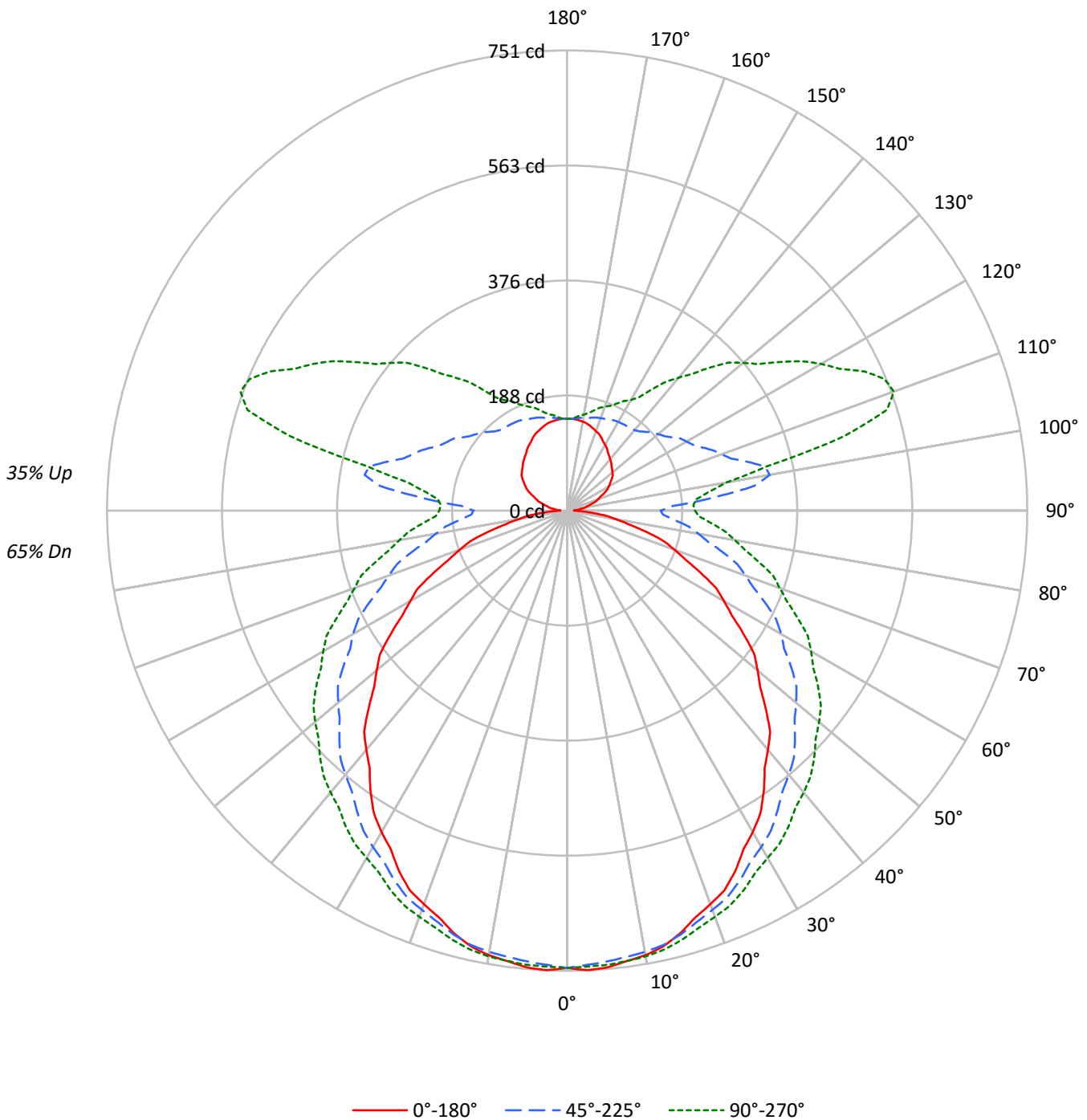
Lumens per Lamp: N/A  
Luminaire Lumens: 3891.6 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct  
  
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input 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	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55	51
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45	41
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37	34
4	74	62	53	47	69	58	51	44	52	45	40	45	40	36	39	35	32	28
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21
7	58	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21	19
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16
9	50	37	29	24	47	35	28	23	31	25	21	28	22	19	24	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	18	15	13

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

	0°	45°	90°
0°	12053	12053	12053
5°	12111	11602	11558
10°	12036	11258	11133
15°	11869	10896	10685
20°	11659	10507	10254
25°	11452	10132	9863
30°	11160	9747	9469
35°	10866	9375	9193
40°	10556	9059	8916
45°	10260	8774	8678
50°	9944	8519	8446
55°	9611	8242	8208
60°	9207	7957	7957
65°	8784	7620	7658
70°	8310	7260	7336
75°	7704	6907	7041
80°	6744	6545	6739
85°	5835	6234	6508



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.7	1.8
10°-20°	202.8	5.2
20°-30°	307.4	7.9
30°-40°	374.4	9.6
40°-50°	402.8	10.3
50°-60°	391.1	10.1
60°-70°	341.5	8.8
70°-80°	262.9	6.8
80°-90°	177.8	4.6
90°-100°	181.5	4.7
100°-110°	292.0	7.5
110°-120°	274.6	7.1
120°-130°	210.5	5.4
130°-140°	156.5	4.0
140°-150°	110.3	2.8
150°-160°	75.8	1.9
160°-170°	44.6	1.1
170°-180°	14.5	0.4
0°-30°	580.9	14.9
0°-40°	955.3	24.5
0°-60°	1749.2	44.9
0°-90°	2531.4	65.0
90°-120°	748.0	19.2
90°-150°	1225.2	31.5
90°-180°	1360.0	34.9
0°-180°	3891.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	746	746	746	746	746	
5°	749	745	739	745	744	71
15°	714	716	716	725	725	201
25°	649	657	666	679	683	298
35°	559	578	598	621	630	349
45°	459	488	526	558	570	354
55°	352	392	447	484	500	314
65°	240	294	357	400	415	239
75°	133	194	263	308	324	141
85°	39	106	175	219	236	42
90°	11	78	153	194	209	8
95°	19	85	237	207	211	18
105°	40	91	306	511	468	44
115°	66	96	244	465	536	65
125°	89	106	208	363	422	79
135°	102	123	182	285	330	79
145°	116	133	169	216	241	73
155°	132	142	164	185	193	61
165°	144	148	157	166	169	40
175°	150	150	151	153	152	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°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	750.8	750.2	749.7	749.1	748.5	747.5	746.2	744.9	743.5	742.2	743.1
5°	748.6	748.0	747.2	746.5	745.8	744.7	743.2	741.8	740.4	738.9	740.4
7.5°	741.9	741.4	740.9	740.5	740.0	739.2	738.1	737.0	735.9	734.8	736.5
10°	736.8	736.3	735.8	735.3	734.8	734.3	733.5	732.8	732.1	731.3	733.3
12.5°	728.1	728.2	728.3	728.4	728.5	728.2	727.7	727.2	726.7	726.1	728.1
15°	714.0	714.5	715.0	715.5	715.9	716.2	716.2	716.2	716.2	716.2	718.4
17.5°	695.9	696.8	697.9	698.9	699.9	700.7	701.6	702.3	703.1	703.8	706.1
20°	683.7	684.9	686.2	687.4	688.5	689.7	690.6	691.5	692.5	693.5	696.1
22.5°	670.7	672.1	673.5	674.9	676.3	677.7	679.1	680.4	681.8	683.1	685.7
25°	649.1	650.8	652.5	654.2	655.8	657.8	659.9	662.1	664.2	666.4	669.3
27.5°	623.1	625.9	628.6	631.4	634.1	636.7	639.3	641.9	644.4	646.9	650.6
30°	605.8	608.9	612.1	615.2	618.3	621.5	624.6	627.7	630.9	634.0	637.8
32.5°	586.8	590.3	593.8	597.4	600.9	604.5	608.1	611.9	615.6	619.2	623.7
35°	559.3	563.4	567.5	571.6	575.7	580.0	584.6	589.1	593.7	598.3	603.6
37.5°	529.5	534.2	538.9	543.6	548.3	553.6	559.5	565.5	571.4	577.3	583.2
40°	509.6	514.9	520.2	525.5	530.7	536.6	543.1	549.6	556.1	562.6	568.8
42.5°	490.5	495.8	501.1	506.4	511.7	518.0	525.5	533.0	540.4	547.9	554.6
45°	458.7	465.2	471.7	478.2	484.7	492.1	500.5	509.0	517.4	525.8	533.2
47.5°	427.3	434.4	441.5	448.6	455.6	464.1	473.9	483.8	493.7	503.5	511.3
50°	405.7	413.1	420.6	428.0	435.5	444.7	455.4	466.3	477.1	488.0	496.1
52.5°	384.9	392.7	400.6	408.5	416.3	425.9	437.3	448.7	460.1	471.5	479.8
55°	351.6	360.3	368.9	377.6	386.2	396.8	409.3	421.8	434.3	446.8	455.4
57.5°	318.7	328.5	338.3	348.0	357.8	369.0	381.7	394.5	407.2	420.0	429.3
60°	295.4	305.7	316.0	326.4	336.7	348.7	362.4	376.1	389.8	403.6	412.7
62.5°	274.6	285.3	296.0	306.7	317.5	329.7	343.4	357.1	370.8	384.5	394.2
65°	240.2	251.9	263.7	275.5	287.3	300.3	314.5	328.6	342.8	357.0	366.9
67.5°	208.6	220.9	233.2	245.5	257.8	271.3	285.8	300.3	314.8	329.3	339.2
70°	186.1	198.6	211.1	223.6	236.1	249.8	264.7	279.6	294.5	309.4	319.8
72.5°	165.3	178.2	191.1	204.0	216.9	230.8	246.0	261.1	276.1	291.2	301.4
75°	133.1	146.5	160.0	173.5	186.9	201.4	216.7	232.1	247.5	262.9	273.2
77.5°	101.9	116.0	130.1	144.1	158.2	173.1	188.7	204.4	220.0	235.6	245.9
80°	81.1	95.8	110.5	125.1	139.8	154.9	170.6	186.2	201.8	217.4	227.6
82.5°	63.8	78.3	92.8	107.2	121.7	136.9	152.7	168.5	184.3	200.2	210.3
85°	39.0	53.9	68.7	83.6	98.6	113.7	129.1	144.5	159.9	175.3	185.4
87.5°	21.3	35.8	50.3	64.7	79.2	94.2	109.9	125.7	141.5	156.9	166.6
90°	11.1	25.9	41.0	55.5	70.0	85.6	102.4	119.8	136.9	152.6	161.9
92.5°	13.5	28.0	43.0	57.3	72.2	88.9	110.1	134.1	157.1	172.4	176.1
95°	18.8	31.2	45.3	59.3	75.2	95.0	122.6	162.1	209.9	237.3	232.4
97.5°	24.0	35.6	48.7	62.7	78.0	97.8	128.3	177.1	246.5	307.9	326.2
100°	29.8	39.5	51.0	64.5	79.2	98.4	127.1	175.8	251.4	335.7	386.1
102.5°	34.2	43.0	53.6	66.4	80.6	99.2	126.4	170.7	241.4	330.8	404.8
105°	40.5	48.7	57.6	69.0	82.3	100.0	126.1	164.3	224.3	306.5	391.5
107.5°	48.7	55.1	62.7	72.2	84.1	101.0	126.1	160.5	211.7	281.3	357.0
110°	53.3	59.3	65.8	74.4	85.2	101.8	126.3	158.8	205.8	268.2	335.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	58.4	63.6	69.5	77.1	87.0	103.1	126.6	157.4	200.5	257.1	318.5
115°	66.3	70.4	74.7	80.8	89.2	103.7	126.9	155.3	194.1	243.5	296.3
117.5°	73.4	76.2	79.7	84.5	91.7	105.7	127.2	153.6	188.1	232.0	278.7
120°	78.4	80.6	83.2	86.8	93.5	106.9	127.8	152.9	184.7	225.1	268.5
122.5°	83.2	84.5	86.7	89.9	96.0	109.1	128.7	152.1	181.6	219.0	259.1
125°	88.6	89.4	91.2	94.7	100.4	112.3	130.4	151.0	176.6	208.5	244.7
127.5°	93.7	94.6	96.8	100.3	105.6	116.9	133.1	151.0	172.8	199.7	231.1
130°	96.6	97.6	100.2	104.0	109.5	120.0	135.1	151.1	170.6	194.0	222.3
132.5°	99.4	100.5	103.5	107.5	113.2	123.1	136.6	151.2	168.4	188.7	214.1
135°	102.5	103.6	107.1	111.5	118.1	127.3	138.9	151.4	165.3	181.6	203.0
137.5°	106.4	107.7	111.1	115.7	122.2	130.2	140.4	150.8	162.4	175.2	193.5
140°	109.4	110.3	113.5	117.9	124.0	131.6	140.7	150.1	160.4	171.5	187.8
142.5°	112.4	113.1	116.1	120.4	126.3	133.2	141.8	150.6	159.7	169.8	183.7
145°	115.8	117.0	119.8	124.2	130.0	136.2	144.1	152.1	160.1	168.8	179.4
147.5°	120.7	121.5	124.3	128.2	133.1	138.7	146.0	153.1	160.4	167.8	176.0
150°	123.8	124.7	127.0	130.8	135.1	140.3	146.9	153.5	160.1	167.1	174.0
152.5°	127.1	127.5	129.8	133.1	137.2	141.9	147.8	153.8	159.7	165.9	172.4
155°	131.7	131.9	133.6	136.8	140.0	144.3	149.2	154.1	159.0	163.9	169.4
157.5°	135.4	135.7	137.1	139.9	142.4	146.0	150.2	154.1	157.7	161.8	166.6
160°	137.9	138.3	139.4	141.7	144.1	147.2	150.7	154.1	157.0	160.5	164.4
162.5°	140.6	140.3	141.5	143.3	145.4	147.9	150.9	153.8	156.3	159.3	162.7
165°	143.5	143.2	143.7	145.4	146.9	148.6	151.2	153.3	155.0	157.0	159.6
167.5°	145.9	145.5	146.0	147.2	148.2	149.3	151.2	152.9	153.7	155.0	156.6
170°	147.5	146.9	147.2	148.1	148.6	149.5	150.9	152.4	153.0	153.8	155.0
172.5°	148.4	148.1	147.9	148.8	149.1	149.8	150.7	151.7	152.1	152.5	153.4
175°	149.5	149.2	149.0	149.5	149.5	149.8	150.3	150.9	150.7	150.9	151.2
177.5°	150.0	149.5	149.4	149.8	149.8	149.8	150.0	150.5	150.0	149.8	150.0
180°	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	744.0	745.0	746.0	746.3	745.9	745.5	745.1	744.8
5°	741.8	743.2	744.7	745.3	745.0	744.8	744.5	744.3
7.5°	738.3	740.0	741.8	742.5	742.2	742.0	741.8	741.5
10°	735.2	737.1	739.1	739.9	739.6	739.4	739.2	738.9
12.5°	730.0	731.9	733.9	734.7	734.4	734.2	733.9	733.7
15°	720.5	722.7	724.9	725.8	725.5	725.3	725.0	724.9
17.5°	708.4	710.6	712.9	714.0	714.0	714.0	714.0	714.0
20°	698.8	701.4	704.0	705.4	705.4	705.4	705.4	705.4
22.5°	688.4	691.0	693.7	695.2	695.5	695.9	696.3	696.8
25°	672.2	675.1	678.0	679.8	680.4	681.2	681.9	682.7
27.5°	654.3	657.9	661.5	663.7	664.2	664.7	665.3	665.8
30°	641.6	645.5	649.4	651.7	652.3	653.1	653.8	654.5
32.5°	628.1	632.5	636.9	639.8	641.1	642.4	643.7	645.0
35°	608.9	614.2	619.5	622.9	624.6	626.3	627.9	629.7
37.5°	589.0	594.8	600.7	604.5	606.3	608.1	609.9	611.7
40°	575.0	581.3	587.6	591.7	593.9	596.1	598.3	600.5
42.5°	561.5	568.3	575.2	579.7	581.8	584.0	586.1	588.3
45°	540.7	548.1	555.6	560.5	563.0	565.3	567.8	570.1
47.5°	519.1	526.8	534.7	539.9	542.5	545.2	547.8	550.5
50°	504.3	512.4	520.7	526.0	528.6	531.3	533.9	536.6
52.5°	488.2	496.6	504.9	510.5	513.4	516.2	519.0	521.9
55°	464.1	472.8	481.4	487.3	490.4	493.6	496.7	499.8
57.5°	438.6	447.9	457.3	463.6	466.7	469.9	473.0	476.2
60°	421.8	431.0	440.1	446.3	449.7	453.1	456.4	459.8
62.5°	403.9	413.6	423.3	429.8	432.9	436.1	439.3	442.5
65°	376.7	386.6	396.5	402.9	406.0	409.2	412.3	415.4
67.5°	349.2	359.1	369.2	375.8	379.0	382.3	385.6	388.8
70°	330.1	340.4	350.7	357.3	360.3	363.1	366.1	368.9
72.5°	311.5	321.6	331.8	338.6	342.1	345.5	349.0	352.5
75°	283.6	293.9	304.3	311.0	314.1	317.2	320.3	323.5
77.5°	256.2	266.5	276.8	283.6	287.0	290.3	293.8	297.1
80°	237.7	247.8	257.9	264.6	267.9	271.3	274.7	278.0
82.5°	220.4	230.4	240.5	247.2	250.4	253.5	256.7	259.8
85°	195.4	205.5	215.6	222.4	225.8	229.1	232.4	235.9
87.5°	176.3	186.1	196.0	202.5	205.6	208.6	211.7	214.8
90°	171.3	180.3	190.5	197.1	199.9	202.8	205.7	208.6
92.5°	179.0	184.8	191.8	196.2	198.9	200.8	203.9	206.4
95°	218.2	209.7	206.8	206.4	205.5	206.2	208.1	211.3
97.5°	309.0	285.9	263.6	248.7	237.7	233.5	232.1	232.5
100°	389.0	362.2	331.6	302.5	281.2	271.5	265.8	263.3
102.5°	439.4	440.1	420.0	388.7	365.3	346.8	339.1	334.7
105°	459.9	500.8	513.0	509.0	493.8	478.6	468.9	467.5
107.5°	428.7	485.8	523.8	543.1	548.0	549.7	549.8	547.1
110°	404.1	463.3	507.8	536.6	551.7	559.8	565.0	567.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	380.9	438.1	485.2	517.5	537.4	549.1	556.7	560.8
115°	351.0	402.6	447.5	482.1	505.2	521.1	531.2	536.5
117.5°	326.1	372.2	413.5	446.1	469.4	485.9	496.3	500.9
120°	312.3	354.8	392.1	423.0	445.8	461.9	473.0	478.5
122.5°	300.5	339.8	375.3	403.3	423.7	439.3	449.0	453.6
125°	282.5	318.7	350.5	376.4	395.3	408.5	417.8	422.2
127.5°	264.7	297.6	327.4	351.4	368.1	380.5	388.8	392.7
130°	253.4	284.0	312.5	335.3	351.4	363.1	370.8	375.0
132.5°	242.3	270.8	297.3	318.9	334.7	346.4	353.7	357.7
135°	226.8	250.9	274.9	294.6	308.8	320.3	327.4	330.4
137.5°	213.1	233.4	253.0	270.0	283.0	292.8	299.0	302.3
140°	204.6	222.3	239.4	254.7	265.4	274.3	280.1	283.2
142.5°	198.1	213.0	227.4	240.2	250.2	258.2	263.3	265.0
145°	189.8	200.8	211.2	220.9	228.9	235.1	239.1	241.2
147.5°	183.8	191.5	198.7	205.1	211.4	216.0	218.5	219.6
150°	180.9	187.3	193.3	198.4	202.8	206.3	208.0	208.3
152.5°	178.4	184.3	189.4	193.9	197.3	200.2	201.5	201.6
155°	174.9	179.4	183.8	186.9	190.1	192.2	193.3	192.7
157.5°	170.8	174.6	178.2	180.8	183.0	184.7	185.2	185.2
160°	168.2	171.4	174.6	176.6	178.6	180.0	180.3	180.3
162.5°	165.7	168.4	171.1	172.7	174.7	175.7	175.9	175.7
165°	161.9	163.9	165.9	167.1	168.2	169.4	169.4	169.1
167.5°	158.2	159.8	161.2	162.2	162.7	163.4	163.3	163.0
170°	156.5	157.3	158.4	159.0	159.3	160.1	159.9	159.3
172.5°	154.3	155.0	155.9	156.2	156.5	156.9	156.6	156.3
175°	152.1	152.4	152.7	153.0	153.0	153.3	153.0	152.4
177.5°	150.5	150.5	150.7	150.7	150.7	150.7	150.5	150.0
180°	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8

(END OF REPORT)