

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: P331650-940

Luminaire Tested: **SA2XXRDIP-C485D330U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331650-940
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: SA2XXRDIP-C485D330U940-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

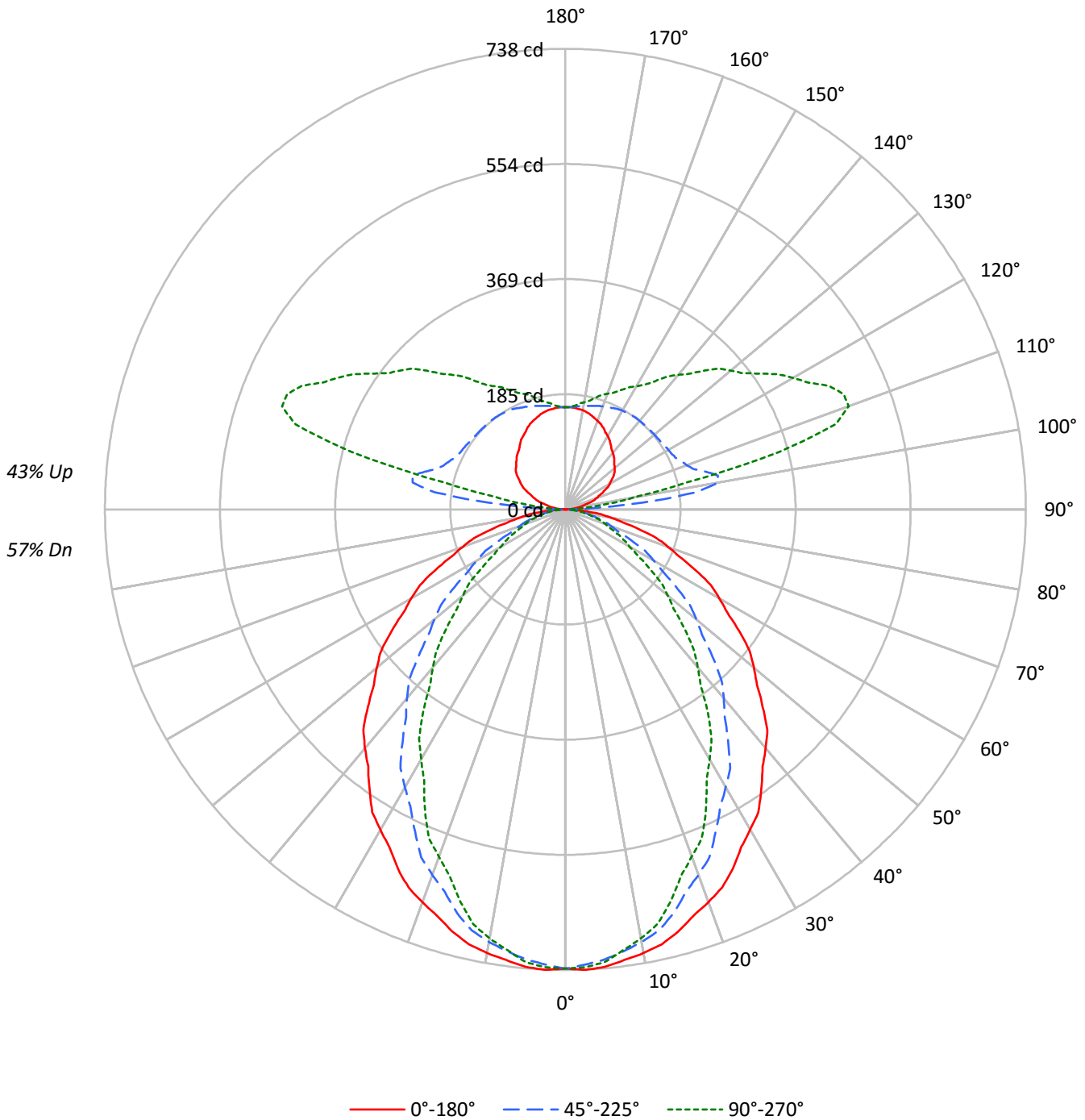
Lumens per Lamp: N/A
Luminaire Lumens: 2655.1 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.5
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	50	30	10	0	
RCR																						
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57				
1	100	96	92	89	93	89	86	83	77	75	73	66	65	63	56	55	54	49				
2	91	84	78	73	85	79	74	69	68	65	61	59	56	54	50	48	46	42				
3	84	75	67	62	78	70	64	58	61	56	52	53	49	46	45	42	40	36				
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	32				
5	71	59	52	46	66	56	49	43	49	43	39	43	38	35	37	33	31	28				
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	34	30	27	25				
7	61	49	41	35	57	46	39	34	40	35	31	35	31	28	31	27	25	22				
8	56	44	37	31	53	42	35	30	37	31	27	33	28	25	28	25	22	20				
9	53	41	33	28	49	38	32	27	34	29	25	30	26	22	26	23	20	18				
10	49	37	30	26	46	35	29	24	32	26	22	28	24	20	25	21	18	17				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.9	2.6
10°-20°	189.1	7.1
20°-30°	265.6	10.0
30°-40°	289.6	10.9
40°-50°	266.3	10.0
50°-60°	209.1	7.9
60°-70°	136.4	5.1
70°-80°	70.3	2.6
80°-90°	19.7	0.7
90°-100°	65.5	2.5
100°-110°	222.3	8.4
110°-120°	236.2	8.9
120°-130°	194.4	7.3
130°-140°	156.1	5.9
140°-150°	118.0	4.4
150°-160°	82.9	3.1
160°-170°	48.8	1.8
170°-180°	15.9	0.6
0°-30°	523.6	19.7
0°-40°	813.2	30.6
0°-60°	1288.6	48.5
0°-90°	1515.0	57.1
90°-120°	524.0	19.7
90°-150°	992.5	37.4
90°-180°	1140.0	42.9
0°-180°	2655.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	0	4	11	10	10	2
95°	11	27	124	47	36	12
105°	38	58	233	417	355	41
115°	68	86	195	403	467	67
125°	94	112	188	327	379	84
135°	111	132	186	274	314	86
145°	127	146	185	229	251	79
155°	144	155	179	203	211	66
165°	157	162	172	182	185	44
175°	164	164	165	167	167	16
180°	164	164	164	164	164	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.6	7.8	7.1	6.3	5.5	5.2	5.5	6.0	6.3	6.4	6.2
90°	0.4	1.2	2.5	3.1	3.7	4.7	6.3	8.5	10.4	10.7	10.4
92.5°	3.8	5.5	7.8	9.2	11.3	14.3	21.4	31.5	40.4	40.9	34.6
95°	11.1	12.3	15.4	18.3	23.3	30.9	45.4	72.8	109.3	123.5	108.1
97.5°	17.9	19.6	23.0	27.3	33.1	41.6	59.8	98.1	158.8	210.8	221.1
100°	24.3	25.2	28.0	33.1	39.4	48.2	64.9	103.3	171.4	248.9	294.3
102.5°	30.1	30.8	33.6	38.6	45.2	54.0	69.5	103.6	166.6	250.1	321.5
105°	38.4	39.7	41.9	46.6	53.6	62.4	77.2	105.2	157.2	233.4	317.3
107.5°	47.5	48.5	50.6	55.0	61.9	70.8	85.2	109.6	152.6	215.5	289.6
110°	53.6	54.8	56.7	60.8	67.4	76.6	90.4	113.1	151.6	207.0	272.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	59.1	60.4	62.5	66.3	72.7	82.1	95.5	116.9	151.8	201.4	260.1
115°	67.8	69.3	71.2	75.0	81.3	89.8	103.3	122.5	153.1	195.4	245.1
117.5°	76.7	77.9	79.8	83.2	89.3	98.1	110.6	128.6	155.4	192.3	235.7
120°	82.2	83.5	85.4	88.2	94.5	103.3	115.7	132.7	156.9	190.6	230.6
122.5°	87.6	88.5	90.4	93.5	99.8	108.9	120.4	136.2	158.6	189.6	226.3
125°	94.5	95.5	97.4	101.1	107.5	116.3	127.6	141.8	161.3	187.8	220.3
127.5°	100.0	101.3	104.0	108.2	114.1	123.2	134.3	147.0	164.0	186.7	214.5
130°	103.3	104.6	107.7	112.2	118.5	127.2	138.3	150.3	166.0	186.2	210.8
132.5°	106.4	107.9	111.3	115.9	122.5	131.3	141.9	153.6	168.1	185.9	207.8
135°	110.9	112.2	115.9	120.6	128.0	136.7	146.9	157.8	170.5	185.6	203.5
137.5°	115.2	116.7	120.5	125.6	132.7	140.9	150.9	161.1	172.6	185.5	200.5
140°	118.5	119.8	123.5	128.6	135.5	143.7	153.1	162.9	173.6	185.3	198.8
142.5°	121.7	122.8	126.3	131.3	138.0	145.7	154.9	164.4	174.3	185.3	197.1
145°	126.6	128.0	131.1	135.8	142.1	149.0	157.6	166.4	175.1	184.6	194.7
147.5°	132.0	132.9	135.9	140.3	145.5	151.7	159.7	167.5	175.4	183.5	192.3
150°	135.5	136.4	138.9	143.0	147.8	153.5	160.7	167.9	175.1	182.7	190.3
152.5°	139.0	139.5	142.0	145.5	150.1	155.2	161.7	168.2	174.7	181.5	188.5
155°	144.0	144.3	146.2	149.6	153.1	157.8	163.2	168.5	173.9	179.2	185.3
157.5°	148.1	148.5	150.0	153.0	155.8	159.7	164.3	168.5	172.5	177.0	182.2
160°	150.9	151.2	152.5	155.0	157.6	161.0	164.8	168.5	171.7	175.5	179.9
162.5°	153.7	153.5	154.8	156.8	159.1	161.8	165.1	168.3	170.9	174.2	177.9
165°	156.9	156.6	157.2	159.1	160.7	162.6	165.4	167.6	169.5	171.7	174.5
167.5°	159.5	159.2	159.7	161.0	162.1	163.3	165.3	167.2	168.1	169.5	171.3
170°	161.3	160.7	161.0	161.9	162.6	163.5	165.1	166.7	167.3	168.3	169.5
172.5°	162.3	161.9	161.8	162.7	163.1	163.8	164.9	165.9	166.3	166.7	167.7
175°	163.5	163.2	162.9	163.5	163.5	163.8	164.4	165.1	164.8	165.1	165.4
177.5°	164.1	163.5	163.4	163.8	163.8	163.8	164.1	164.6	164.1	163.8	164.1
180°	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	6.1	5.8	5.8	5.8	5.8	5.8	5.8	5.8
90°	10.1	9.5	10.1	10.4	10.4	10.4	10.4	10.4
92.5°	27.5	23.5	21.0	19.0	18.7	17.7	17.9	17.5
95°	82.6	63.3	50.1	43.2	39.1	36.6	35.6	35.9
97.5°	192.6	157.6	123.5	100.8	85.7	77.9	73.4	70.7
100°	287.7	248.6	205.5	167.3	141.2	127.6	118.5	112.8
102.5°	349.9	341.1	309.5	269.1	240.7	217.6	206.2	198.5
105°	382.8	418.4	422.5	412.1	392.5	373.0	359.4	355.1
107.5°	359.1	412.8	445.5	460.7	463.2	462.2	459.4	453.6
110°	338.7	395.1	435.4	461.3	474.8	480.8	483.7	483.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	320.0	374.2	417.2	446.9	465.7	475.7	481.1	482.8
115°	297.1	345.6	386.9	419.4	441.8	456.2	464.4	467.3
117.5°	279.8	322.4	359.9	390.3	413.1	428.5	437.0	439.4
120°	271.3	310.3	343.8	372.4	394.5	409.3	418.4	421.6
122.5°	264.5	300.2	331.9	357.8	377.6	392.2	400.3	402.9
125°	254.6	287.0	314.8	338.4	356.7	368.6	376.5	379.1
127.5°	244.8	274.2	300.3	322.1	338.0	349.3	356.1	358.1
130°	238.5	265.6	290.5	311.3	326.7	337.4	343.8	346.3
132.5°	232.5	257.5	280.4	300.0	315.1	325.8	331.6	333.9
135°	224.0	244.8	265.6	283.2	296.8	307.2	312.9	314.1
137.5°	217.3	234.7	251.2	266.5	278.9	287.8	292.8	294.7
140°	212.9	228.1	242.6	256.5	266.5	274.7	279.5	281.3
142.5°	209.5	222.3	234.8	246.4	255.9	263.4	267.6	268.0
145°	204.5	214.9	224.6	233.8	241.3	246.7	249.9	250.7
147.5°	200.6	208.8	216.4	223.1	229.3	233.6	235.8	236.4
150°	197.9	204.8	211.4	217.0	221.8	225.6	227.5	227.8
152.5°	195.1	201.5	207.1	212.0	215.8	219.0	220.4	220.5
155°	191.3	196.3	201.0	204.5	207.9	210.2	211.4	210.8
157.5°	186.8	191.0	194.9	197.7	200.1	202.0	202.5	202.5
160°	184.0	187.4	190.9	193.1	195.4	196.9	197.2	197.2
162.5°	181.2	184.2	187.2	188.9	191.1	192.2	192.4	192.2
165°	177.1	179.2	181.5	182.7	184.0	185.3	185.3	184.9
167.5°	173.1	174.8	176.3	177.5	178.0	178.7	178.6	178.3
170°	171.1	172.0	173.3	173.9	174.2	175.1	174.9	174.2
172.5°	168.8	169.5	170.5	170.9	171.2	171.7	171.3	170.9
175°	166.4	166.7	167.0	167.3	167.3	167.6	167.3	166.7
177.5°	164.6	164.6	164.9	164.9	164.9	164.9	164.6	164.1
180°	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8

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