

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: P332906-940

Luminaire Tested: **S124RDIP-S575D590U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332906-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S575D590U940-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3978.2 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

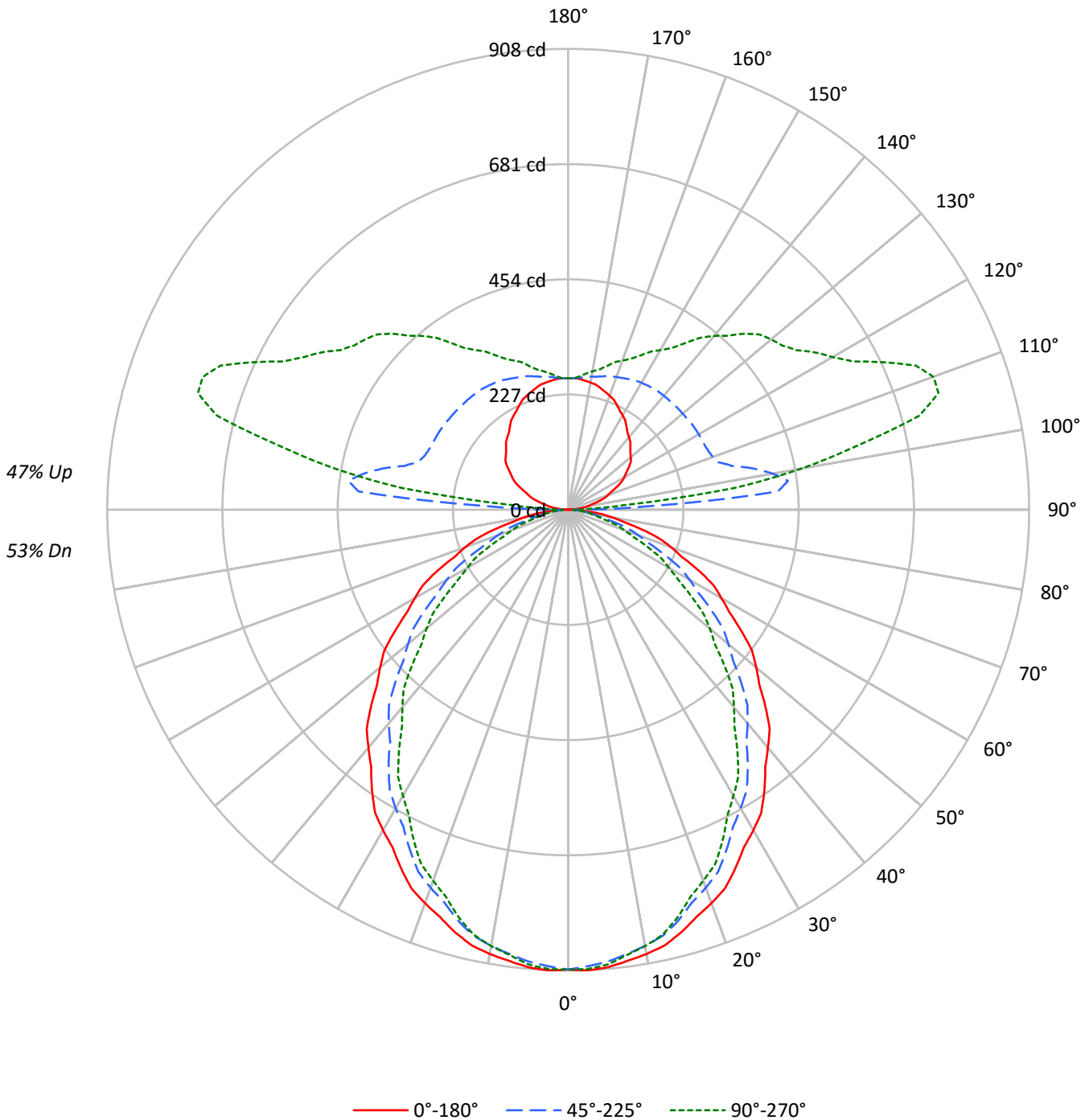
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	50	46	44	43	38
3	82	73	66	60	76	68	62	56	58	54	50	49	46	43	41	39	37	33
4	75	65	57	51	70	60	53	48	52	47	42	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	41	47	41	37	40	36	32	33	30	28	25
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7316	7316	7316
5°	7332	7243	7288
10°	7287	7156	7156
15°	7203	7005	6954
20°	7088	6808	6682
25°	6942	6576	6409
30°	6797	6332	6068
35°	6640	6080	5724
40°	6450	5792	5352
45°	6275	5505	4975
50°	6075	5176	4575
55°	5859	4835	4141
60°	5624	4459	3697
65°	5408	3989	3261
70°	5094	3472	2769
75°	4697	2879	2249
80°	4096	2194	2064
85°	3473	1991	1871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.1	2.1
10°-20°	237.4	6.0
20°-30°	342.8	8.6
30°-40°	388.6	9.8
40°-50°	375.2	9.4
50°-60°	312.0	7.8
60°-70°	215.4	5.4
70°-80°	109.2	2.7
80°-90°	29.5	0.7
90°-100°	187.0	4.7
100°-110°	389.2	9.8
110°-120°	348.6	8.8
120°-130°	293.2	7.4
130°-140°	244.5	6.1
140°-150°	186.8	4.7
150°-160°	131.3	3.3
160°-170°	77.2	1.9
170°-180°	25.1	0.6
0°-30°	665.3	16.7
0°-40°	1053.9	26.5
0°-60°	1741.1	43.8
0°-90°	2095.2	52.7
90°-120°	924.8	23.2
90°-150°	1649.4	41.5
90°-180°	1883.0	47.3
0°-180°	3978.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	905	902	894	900	899	86
15°	862	855	838	837	832	243
25°	779	766	738	727	720	359
35°	674	651	617	594	581	421
45°	550	523	482	449	436	424
55°	416	388	344	309	294	372
65°	283	252	209	180	171	279
75°	151	125	92	77	72	159
85°	38	24	22	20	20	42
90°	0	4	9	10	11	3
95°	17	53	415	205	124	19
105°	60	86	334	719	716	63
115°	105	132	298	572	687	104
125°	146	173	296	486	548	130
135°	173	206	294	432	490	134
145°	200	229	292	364	400	125
155°	227	245	284	321	335	105
165°	248	255	272	288	292	70
175°	258	259	261	264	264	25
180°	259	259	259	259	259	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2
2.5°	908.5	907.9	907.5	907.0	906.5	905.5	904.2	902.9	901.4	900.1	901.4
5°	904.8	904.2	903.6	902.9	902.4	901.2	899.3	897.4	895.5	893.8	895.3
7.5°	896.6	896.0	895.4	894.7	894.0	892.5	890.1	887.7	885.3	882.9	883.9
10°	888.9	888.1	887.3	886.5	885.8	884.0	881.3	878.4	875.7	872.9	873.5
12.5°	878.9	878.0	877.1	876.2	875.3	873.3	870.0	866.7	863.4	860.1	860.5
15°	861.8	860.4	859.1	857.6	856.2	853.6	849.8	846.0	842.0	838.2	837.9
17.5°	841.2	839.1	837.1	835.1	833.1	829.8	825.2	820.6	815.9	811.3	810.5
20°	825.0	823.0	821.0	819.0	817.0	813.4	808.2	802.9	797.6	792.5	791.2
22.5°	807.3	805.0	802.8	800.5	798.3	794.3	788.7	783.1	777.5	771.9	770.0
25°	779.3	776.5	773.6	770.9	768.1	763.6	757.2	750.9	744.6	738.3	735.7
27.5°	749.8	746.4	742.9	739.4	735.8	730.8	724.0	717.3	710.5	703.7	700.5
30°	729.2	725.4	721.6	717.7	713.9	708.3	701.1	693.8	686.5	679.3	675.5
32.5°	707.7	703.3	698.9	694.6	690.3	684.3	676.8	669.3	661.8	654.3	649.9
35°	673.8	668.9	663.9	659.0	654.1	647.7	640.0	632.3	624.6	616.9	611.6
37.5°	637.6	632.5	627.4	622.3	617.2	610.4	601.8	593.3	584.8	576.2	570.3
40°	612.0	606.9	601.8	596.7	591.7	584.7	576.0	567.1	558.4	549.6	543.1
42.5°	587.5	582.3	576.9	571.6	566.2	559.0	549.8	540.6	531.5	522.4	515.8
45°	549.6	543.9	538.1	532.4	526.7	519.2	510.0	500.8	491.5	482.2	474.7
47.5°	510.3	504.4	498.5	492.6	486.7	478.9	469.3	459.8	450.1	440.5	432.7
50°	483.7	477.6	471.6	465.6	459.6	451.7	441.8	431.9	422.0	412.1	404.5
52.5°	456.5	450.6	444.7	438.8	432.8	424.9	414.7	404.7	394.5	384.4	376.6
55°	416.3	410.2	404.0	397.8	391.6	383.5	373.5	363.6	353.5	343.5	335.5
57.5°	376.7	370.2	363.8	357.4	351.0	342.9	333.0	323.1	313.3	303.4	295.2
60°	348.3	342.1	336.0	329.8	323.7	315.7	305.8	295.9	286.1	276.2	268.1
62.5°	322.8	316.4	310.0	303.5	297.1	288.9	278.7	268.7	258.5	248.4	241.0
65°	283.1	276.5	269.8	263.2	256.5	248.3	238.4	228.6	218.7	208.8	202.2
67.5°	241.9	235.5	229.2	222.8	216.5	208.7	199.6	190.4	181.3	172.1	166.4
70°	215.8	209.3	202.9	196.4	189.9	182.3	173.4	164.7	155.9	147.1	142.0
72.5°	188.1	182.2	176.3	170.5	164.6	157.6	149.3	141.0	132.6	124.3	120.0
75°	150.6	144.9	139.2	133.5	127.8	121.3	114.0	106.7	99.5	92.3	88.7
77.5°	112.5	107.7	102.9	98.0	93.2	87.8	81.9	76.2	70.3	64.4	62.3
80°	88.1	83.6	79.2	74.7	70.3	65.7	61.1	56.4	51.8	47.2	46.7
82.5°	67.1	63.0	58.9	54.8	50.6	47.3	44.6	41.9	39.3	36.6	36.3
85°	37.5	34.4	31.3	28.2	25.1	23.4	22.9	22.5	21.9	21.5	21.2
87.5°	12.8	12.1	11.4	10.5	9.6	9.1	9.5	9.5	9.5	9.6	9.4
90°	0.5	1.5	3.0	3.6	4.1	4.1	7.1	7.1	8.1	9.2	8.6
92.5°	5.8	8.5	13.2	19.4	26.8	37.5	63.3	102.7	141.2	161.3	134.4
95°	16.8	18.3	23.4	30.1	42.2	63.6	107.8	191.3	312.8	414.6	426.2
97.5°	30.1	30.1	34.5	40.6	51.1	69.0	103.1	171.9	292.8	436.7	535.6
100°	38.7	38.7	42.2	48.3	58.0	74.3	104.2	161.8	265.6	408.9	539.2
102.5°	46.8	47.6	50.7	56.4	65.7	81.1	108.3	158.9	247.2	374.4	508.6
105°	59.5	61.1	63.6	69.7	78.8	93.6	118.0	160.2	231.5	333.7	453.3
107.5°	73.6	74.5	77.1	83.6	92.4	106.9	129.3	167.7	228.6	310.9	408.5
110°	82.9	83.9	86.5	92.6	101.7	115.5	137.9	173.4	229.4	303.2	386.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	91.8	92.9	95.9	101.6	110.7	124.4	146.0	179.6	231.8	299.5	373.4
115°	104.8	106.3	109.9	114.9	124.7	138.4	158.7	189.2	236.6	297.6	361.7
117.5°	118.2	119.7	122.8	128.4	137.4	151.7	171.0	199.1	241.5	297.0	356.4
120°	127.2	128.2	131.7	137.3	146.0	160.2	179.6	206.0	245.2	297.0	353.6
122.5°	135.3	136.3	139.9	145.1	154.5	168.4	187.7	212.5	248.9	296.7	350.3
125°	146.0	148.0	151.1	156.7	166.3	180.6	198.9	222.3	254.3	296.0	344.9
127.5°	155.4	157.1	160.8	167.1	177.2	191.5	209.3	230.8	258.7	294.9	337.7
130°	160.8	162.7	166.8	174.5	184.1	198.9	216.2	236.0	262.0	294.5	333.1
132.5°	166.0	167.6	173.0	180.2	190.6	204.6	221.9	241.3	264.8	294.1	329.1
135°	173.4	175.5	180.6	189.2	199.9	213.1	229.9	248.3	269.1	293.5	323.0
137.5°	180.9	182.8	188.4	196.6	207.8	220.3	236.0	253.2	271.6	293.4	317.7
140°	186.2	187.7	193.3	202.0	212.6	224.8	240.1	256.4	273.7	293.0	314.9
142.5°	191.9	193.4	198.6	206.8	217.1	228.9	243.8	258.8	275.3	293.0	312.5
145°	199.9	201.4	206.5	213.7	223.3	234.5	247.7	261.4	276.3	291.9	308.3
147.5°	208.9	209.5	213.9	221.2	229.3	239.4	251.8	263.8	276.7	290.2	304.5
150°	214.6	215.2	219.3	225.3	233.0	242.6	253.9	265.0	276.7	288.9	301.7
152.5°	220.0	220.1	224.1	229.8	236.7	245.5	255.5	265.8	275.9	286.9	298.4
155°	227.4	227.9	231.0	236.0	241.7	249.2	257.9	266.5	274.6	283.8	293.5
157.5°	234.6	234.6	237.5	241.4	246.3	252.3	259.7	266.5	273.4	280.7	288.6
160°	239.1	239.1	241.1	244.7	248.7	254.3	260.5	266.5	272.2	278.2	284.9
162.5°	243.2	242.7	244.3	247.5	251.2	255.6	261.3	266.5	270.9	275.8	281.6
165°	247.7	247.7	248.7	251.3	253.9	256.9	261.4	265.6	268.6	272.2	276.3
167.5°	252.3	251.8	252.3	254.2	255.7	258.0	261.4	264.3	266.2	268.5	271.3
170°	254.3	253.9	254.3	255.8	256.9	258.4	260.9	263.5	264.5	266.0	268.0
172.5°	256.4	255.8	255.9	257.1	257.7	258.8	260.6	262.7	262.9	263.6	265.2
175°	258.4	257.9	257.9	258.4	259.0	259.0	259.9	261.4	260.9	260.9	262.0
177.5°	259.3	259.0	258.5	259.0	259.0	259.0	259.3	260.1	259.3	259.3	259.8
180°	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2
2.5°	902.9	904.2	905.5	906.2	906.1	905.9	905.8	905.7
5°	896.8	898.4	899.9	900.5	900.2	899.9	899.6	899.3
7.5°	884.8	885.8	886.9	887.1	886.6	886.1	885.6	885.1
10°	874.1	874.8	875.4	875.4	874.8	874.1	873.5	872.9
12.5°	860.9	861.2	861.7	861.4	860.5	859.7	858.8	857.9
15°	837.6	837.3	837.0	836.3	835.2	834.1	833.0	832.0
17.5°	809.6	808.7	807.8	806.6	804.9	803.3	801.6	800.0
20°	790.0	788.7	787.5	785.9	783.9	781.9	779.9	777.8
22.5°	768.2	766.3	764.5	762.8	761.1	759.5	757.9	756.2
25°	733.1	730.4	727.8	725.8	724.2	722.6	721.1	719.5
27.5°	697.2	694.0	690.8	688.0	685.8	683.6	681.4	679.2
30°	671.6	667.7	663.9	660.8	658.3	655.8	653.4	650.9
32.5°	645.4	641.0	636.4	633.0	630.7	628.4	626.0	623.7
35°	606.4	601.1	595.9	591.9	589.2	586.3	583.5	580.8
37.5°	564.5	558.7	552.8	548.5	545.6	542.9	540.1	537.3
40°	536.6	530.1	523.6	519.1	516.2	513.4	510.7	507.9
42.5°	509.2	502.6	496.0	491.2	488.3	485.4	482.5	479.7
45°	467.2	459.6	452.0	446.8	444.1	441.3	438.5	435.8
47.5°	424.8	417.0	409.1	403.7	400.6	397.6	394.6	391.5
50°	396.7	389.1	381.3	376.0	373.1	370.1	367.2	364.3
52.5°	368.7	360.9	353.1	347.7	344.6	341.5	338.5	335.5
55°	327.4	319.4	311.4	305.9	303.0	300.1	297.1	294.2
57.5°	287.0	278.9	270.8	265.6	263.4	261.2	259.0	256.7
60°	260.1	252.1	244.1	238.9	236.4	233.9	231.5	229.0
62.5°	233.6	226.2	218.8	214.1	212.1	210.2	208.2	206.3
65°	195.6	189.0	182.4	178.1	176.3	174.4	172.5	170.7
67.5°	160.7	155.0	149.3	145.4	143.4	141.3	139.3	137.2
70°	137.0	131.9	126.7	123.4	121.9	120.4	118.8	117.3
72.5°	115.7	111.3	106.9	104.1	102.6	101.2	99.8	98.4
75°	85.2	81.7	78.1	75.9	74.9	74.0	73.1	72.1
77.5°	60.3	58.2	56.1	54.9	54.7	54.4	54.1	53.9
80°	46.3	45.8	45.3	45.0	44.9	44.7	44.6	44.4
82.5°	35.9	35.6	35.3	35.0	34.9	34.7	34.6	34.4
85°	20.9	20.6	20.2	20.2	20.2	20.2	20.2	20.2
87.5°	9.4	9.4	9.3	9.3	9.5	9.7	9.8	9.9
90°	9.2	9.6	10.2	10.2	10.7	11.1	10.7	10.7
92.5°	99.9	75.2	59.8	49.7	43.6	40.9	39.1	39.1
95°	376.9	298.1	229.9	180.6	155.7	139.9	130.7	124.1
97.5°	556.9	527.6	477.9	424.7	388.3	357.6	342.3	331.7
100°	613.5	623.7	598.7	561.1	516.8	485.8	470.6	466.5
102.5°	610.6	661.1	668.3	652.6	625.4	603.0	586.9	583.6
105°	569.7	657.7	708.1	729.0	730.0	725.9	718.7	715.7
107.5°	511.7	605.3	676.3	721.6	746.7	758.3	763.4	764.7
110°	476.6	564.6	638.4	694.4	730.5	751.8	761.0	765.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	451.0	528.8	598.5	654.4	695.4	721.3	734.1	741.5
115°	425.3	487.9	547.3	596.2	636.3	666.9	683.1	687.2
117.5°	412.6	464.4	511.2	552.6	586.9	612.5	629.0	632.2
120°	407.0	454.2	494.9	531.0	560.1	582.5	595.7	601.3
122.5°	402.1	447.7	484.7	516.4	540.9	560.1	571.2	576.8
125°	393.7	437.5	472.5	500.5	520.8	535.7	545.3	548.3
127.5°	383.5	425.3	460.4	486.9	507.4	520.5	528.6	531.6
130°	375.4	415.6	450.1	477.2	498.0	510.7	518.9	521.9
132.5°	366.8	404.6	438.4	465.3	485.8	500.2	507.8	511.0
135°	355.1	388.2	419.1	444.6	464.9	479.2	487.3	490.4
137.5°	344.4	372.4	398.5	421.5	440.5	454.6	461.3	464.9
140°	338.2	362.2	385.0	406.4	424.3	435.4	442.6	446.7
142.5°	332.6	353.7	373.3	391.8	407.5	417.9	424.3	427.0
145°	324.5	341.8	357.1	371.3	384.1	392.7	397.8	400.3
147.5°	317.9	331.6	343.8	355.1	364.4	371.8	375.7	376.7
150°	313.9	325.6	335.7	344.9	353.0	359.6	362.7	363.2
152.5°	309.3	319.4	328.8	336.4	343.2	348.7	350.4	351.0
155°	302.6	310.8	318.4	324.5	329.7	333.7	335.2	335.2
157.5°	295.4	302.3	308.6	313.5	317.4	320.5	321.4	321.4
160°	291.0	296.6	302.1	306.2	309.2	312.4	312.8	312.8
162.5°	286.5	291.2	295.6	299.3	301.6	304.6	305.1	304.7
165°	280.3	283.3	286.9	289.4	291.5	293.5	293.0	292.5
167.5°	274.3	276.6	279.5	281.0	282.0	283.3	283.2	282.9
170°	270.6	272.2	274.2	275.7	276.7	277.2	276.7	276.7
172.5°	267.3	268.5	269.7	270.8	271.4	272.0	271.4	270.6
175°	263.0	263.5	264.5	264.5	264.5	265.6	264.5	263.5
177.5°	260.1	260.6	260.6	260.9	260.6	260.9	260.1	259.3
180°	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0

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