

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: P331915-940

Luminaire Tested: **S123DIP-S560D365U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331915-940
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-S560D365U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 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: 3279.5 lumens
Efficiency: N/A
Efficacy: 119.3 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: General Diffuse

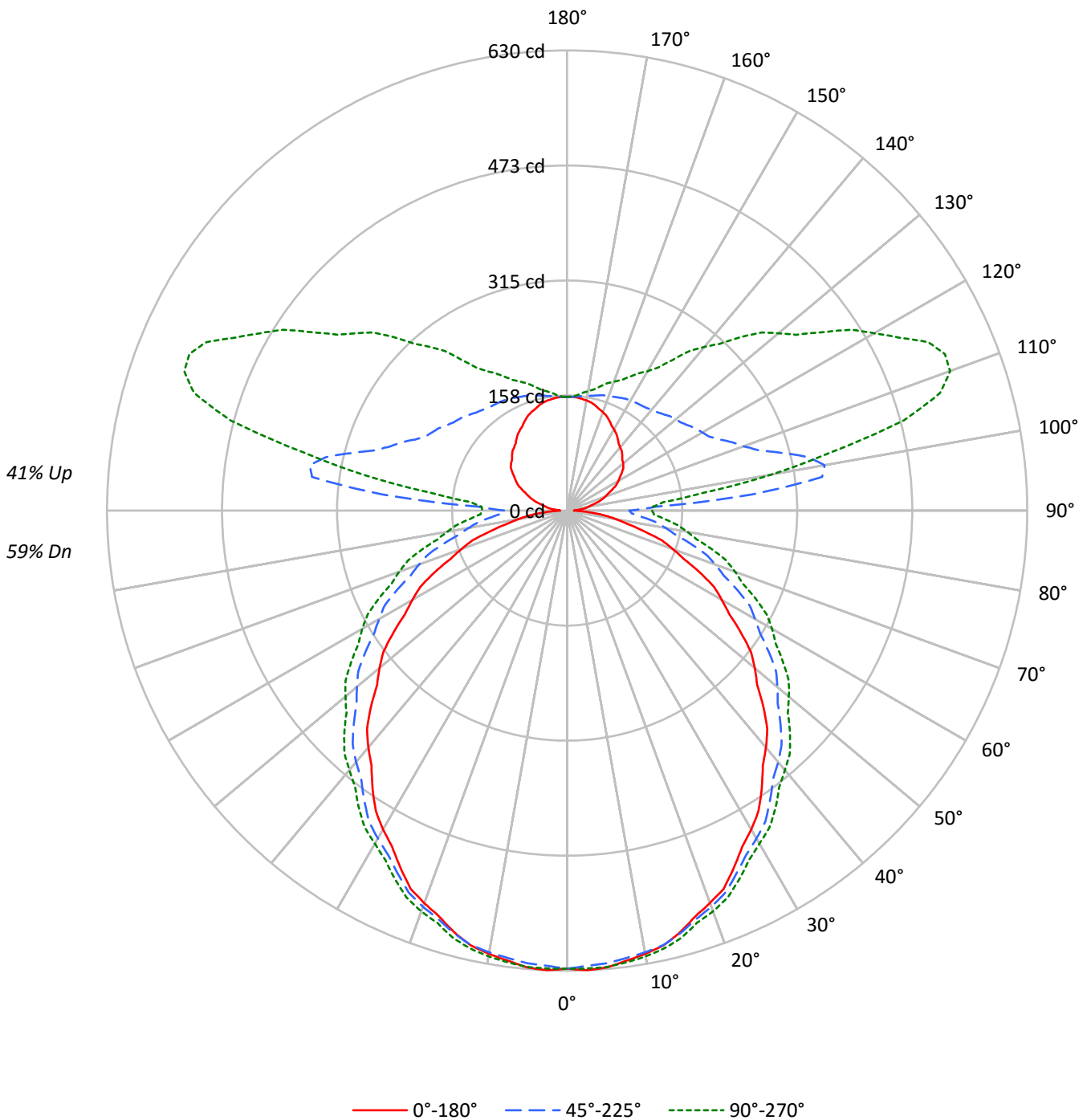
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	50	30	10	0													
RCR																																					
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																			
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47																			
2	89	81	74	69	83	76	70	65	66	61	57	56	53	50	48	45	43	38																			
3	81	71	63	57	75	66	59	53	57	52	47	49	45	42	42	39	36	32																			
4	74	63	54	48	69	58	51	45	51	45	40	44	39	35	37	34	31	27																			
5	68	56	47	41	63	52	44	39	45	39	34	39	34	30	33	30	26	23																			
6	63	50	41	35	58	47	39	33	41	35	30	35	30	26	30	26	23	20																			
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	24	20	18																			
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14																			
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	22	18	15	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.8
10°-20°	169.5	5.2
20°-30°	253.4	7.7
30°-40°	302.7	9.2
40°-50°	316.7	9.7
50°-60°	297.2	9.1
60°-70°	248.2	7.6
70°-80°	177.6	5.4
80°-90°	107.1	3.3
90°-100°	153.1	4.7
100°-110°	294.1	9.0
110°-120°	273.9	8.4
120°-130°	211.1	6.4
130°-140°	160.1	4.9
140°-150°	115.1	3.5
150°-160°	79.0	2.4
160°-170°	46.4	1.4
170°-180°	15.1	0.5
0°-30°	482.3	14.7
0°-40°	785.0	23.9
0°-60°	1398.8	42.7
0°-90°	1931.7	58.9
90°-120°	721.1	22.0
90°-150°	1207.4	36.8
90°-180°	1348.0	41.1
0°-180°	3279.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	10	46	85	108	116	7
95°	18	69	254	142	132	17
105°	42	77	305	513	477	44
115°	68	93	230	477	546	67
125°	92	109	203	363	425	82
135°	107	127	186	290	336	82
145°	121	138	176	227	252	76
155°	136	147	170	194	202	63
165°	149	153	163	173	176	42
175°	155	156	157	159	158	15
180°	156	156	156	156	156	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.3	25.9	33.7	41.4	49.1	56.9	64.8	72.8	80.7	88.6	93.7
90°	9.5	17.6	25.7	34.1	42.1	50.3	59.0	67.7	76.4	85.1	89.9
92.5°	12.2	20.9	30.2	39.3	48.7	60.5	76.4	97.6	118.5	121.3	114.4
95°	18.2	25.1	34.5	45.7	59.8	78.8	113.1	167.5	226.6	254.5	223.9
97.5°	25.0	30.6	38.7	48.7	62.1	81.6	114.3	174.3	267.6	352.3	377.0
100°	29.4	34.6	41.7	51.0	63.4	81.6	110.7	164.3	254.1	357.8	424.3
102.5°	34.2	39.1	45.5	54.0	65.2	82.1	108.7	155.2	235.9	338.1	423.5
105°	42.0	46.6	52.2	59.6	69.2	84.1	107.6	146.6	212.7	304.6	399.3
107.5°	49.7	53.7	58.6	65.5	74.1	87.8	109.0	142.1	196.4	274.5	360.6
110°	55.1	58.9	63.1	69.4	77.4	90.7	110.9	140.9	189.2	257.3	336.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	60.7	63.8	67.7	73.4	81.1	93.6	112.6	140.6	183.7	244.5	314.9
115°	68.0	71.1	74.8	79.8	86.9	99.1	116.5	141.2	178.9	230.0	288.1
117.5°	75.9	78.5	81.1	85.2	92.3	103.3	120.3	142.6	175.0	219.2	269.9
120°	80.9	82.6	84.9	88.8	95.6	106.4	122.7	144.1	173.3	213.7	260.0
122.5°	85.7	87.0	89.0	92.7	98.9	109.9	125.7	145.6	172.6	209.2	251.4
125°	91.8	92.5	94.3	97.8	103.8	114.5	130.0	148.2	171.6	202.8	239.6
127.5°	97.1	97.9	100.0	103.4	109.9	120.1	134.5	150.6	171.2	197.5	228.8
130°	100.4	101.1	103.9	107.5	114.0	123.9	137.3	152.3	171.1	194.0	222.4
132.5°	102.4	103.5	106.6	111.1	117.6	127.1	139.7	153.8	170.5	191.0	216.3
135°	106.6	107.7	111.0	115.7	122.1	131.3	142.8	155.2	169.4	186.5	207.9
137.5°	110.7	111.8	115.1	120.0	126.4	134.7	145.1	156.2	168.4	182.6	200.5
140°	112.9	114.4	117.6	122.6	128.9	137.1	146.6	156.6	167.7	180.1	196.0
142.5°	115.9	117.1	120.4	124.8	131.0	138.3	147.3	156.6	166.7	177.5	191.5
145°	120.7	121.5	124.2	128.8	134.0	141.2	149.4	157.8	166.7	176.1	187.4
147.5°	125.0	125.6	128.3	132.4	137.6	143.7	151.2	158.9	166.7	175.0	184.0
150°	128.2	128.6	131.1	135.2	139.6	145.3	152.5	159.2	166.7	174.0	181.8
152.5°	131.5	131.6	134.1	137.7	141.6	147.0	153.3	159.6	165.9	172.7	179.8
155°	136.4	136.4	138.3	141.5	145.0	149.4	154.7	159.8	165.1	170.5	176.7
157.5°	140.4	140.6	142.1	144.9	147.8	151.2	155.5	160.1	164.1	168.5	173.3
160°	143.4	143.4	144.6	147.1	149.4	152.5	156.3	160.1	163.5	167.0	171.1
162.5°	145.6	145.6	146.7	148.6	150.6	153.3	156.6	159.8	162.6	165.5	168.8
165°	149.0	148.7	149.4	151.0	152.2	154.4	156.9	159.2	161.0	163.3	165.8
167.5°	151.6	151.2	151.6	152.8	153.6	155.1	156.9	158.6	159.5	161.0	162.8
170°	153.1	152.5	152.8	153.7	154.4	155.1	156.6	157.8	158.5	159.4	161.0
172.5°	154.2	153.7	153.8	154.5	154.9	155.2	156.6	157.7	157.7	158.2	159.3
175°	155.3	155.1	154.7	155.3	155.3	155.7	156.3	156.9	156.6	156.6	157.2
177.5°	156.0	155.7	155.4	155.7	155.7	155.7	156.0	156.4	156.0	155.7	156.0
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	98.9	104.2	109.4	112.8	114.3	115.8	117.4	118.9
90°	95.4	100.9	106.4	110.3	111.6	113.3	115.2	116.4
92.5°	109.4	109.0	111.6	113.2	114.0	114.4	116.1	117.0
95°	190.5	158.6	146.6	138.4	133.9	132.6	131.9	132.2
97.5°	354.5	302.7	266.6	232.0	210.3	197.6	190.6	189.4
100°	439.8	418.7	386.2	344.4	314.1	292.6	281.8	283.7
102.5°	465.7	469.2	452.0	426.5	403.2	386.6	377.8	372.1
105°	469.4	505.2	515.4	510.0	496.9	486.2	477.5	477.3
107.5°	439.4	494.6	526.3	540.2	541.8	539.1	537.1	535.5
110°	412.8	474.7	518.4	543.0	552.9	556.7	557.3	557.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	385.8	448.8	497.1	528.1	545.5	554.7	558.5	559.9
115°	350.1	408.6	458.5	495.3	520.1	535.2	542.8	545.5
117.5°	322.7	373.7	418.9	456.1	482.0	499.0	509.3	512.6
120°	307.9	353.9	395.3	429.4	455.3	474.0	482.7	485.6
122.5°	295.6	337.5	375.9	407.7	430.9	447.8	457.2	460.7
125°	278.7	316.3	349.7	377.0	398.3	413.2	422.1	425.4
127.5°	263.4	297.1	327.3	352.3	371.3	384.2	392.4	395.4
130°	253.7	284.9	313.3	336.6	354.3	366.5	374.1	377.5
132.5°	244.4	273.2	299.8	322.1	338.8	351.2	358.1	360.9
135°	231.8	256.8	280.0	299.7	315.9	326.2	332.6	335.6
137.5°	220.0	240.8	260.8	277.9	291.7	302.0	307.6	309.8
140°	213.0	231.4	248.8	263.9	276.6	286.1	291.9	292.4
142.5°	206.1	221.9	237.1	250.2	261.3	269.8	275.1	275.5
145°	198.8	210.4	221.7	231.7	240.2	247.4	250.6	251.8
147.5°	192.8	201.4	209.9	216.9	223.4	228.5	231.4	232.2
150°	189.0	196.4	203.0	209.1	214.1	217.8	220.1	220.3
152.5°	186.3	192.5	198.4	203.4	207.1	210.4	211.7	211.7
155°	182.2	187.2	191.9	195.6	198.5	201.1	201.7	202.0
157.5°	177.7	181.9	185.6	188.6	191.0	192.9	193.4	193.3
160°	175.2	178.7	181.8	184.0	186.2	188.2	188.2	187.8
162.5°	172.2	175.1	178.1	180.0	181.5	183.1	183.1	182.8
165°	168.3	170.1	172.4	174.0	175.2	176.5	176.1	176.1
167.5°	164.9	166.3	167.6	168.7	169.2	170.1	169.9	169.9
170°	162.6	163.5	164.8	165.4	165.8	166.4	166.0	166.0
172.5°	160.6	161.3	162.3	162.6	162.7	163.4	162.8	162.6
175°	157.8	158.2	158.8	158.8	158.8	159.2	158.8	158.5
177.5°	156.1	156.4	156.7	156.7	156.4	156.7	156.1	156.1
180°	155.7	155.7	155.7	155.7	155.7	155.7	155.7	155.7

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