

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: P331918-927

Luminaire Tested: **S123DIP-S560D365U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331918-927
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-S560D365U927-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2877.9 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

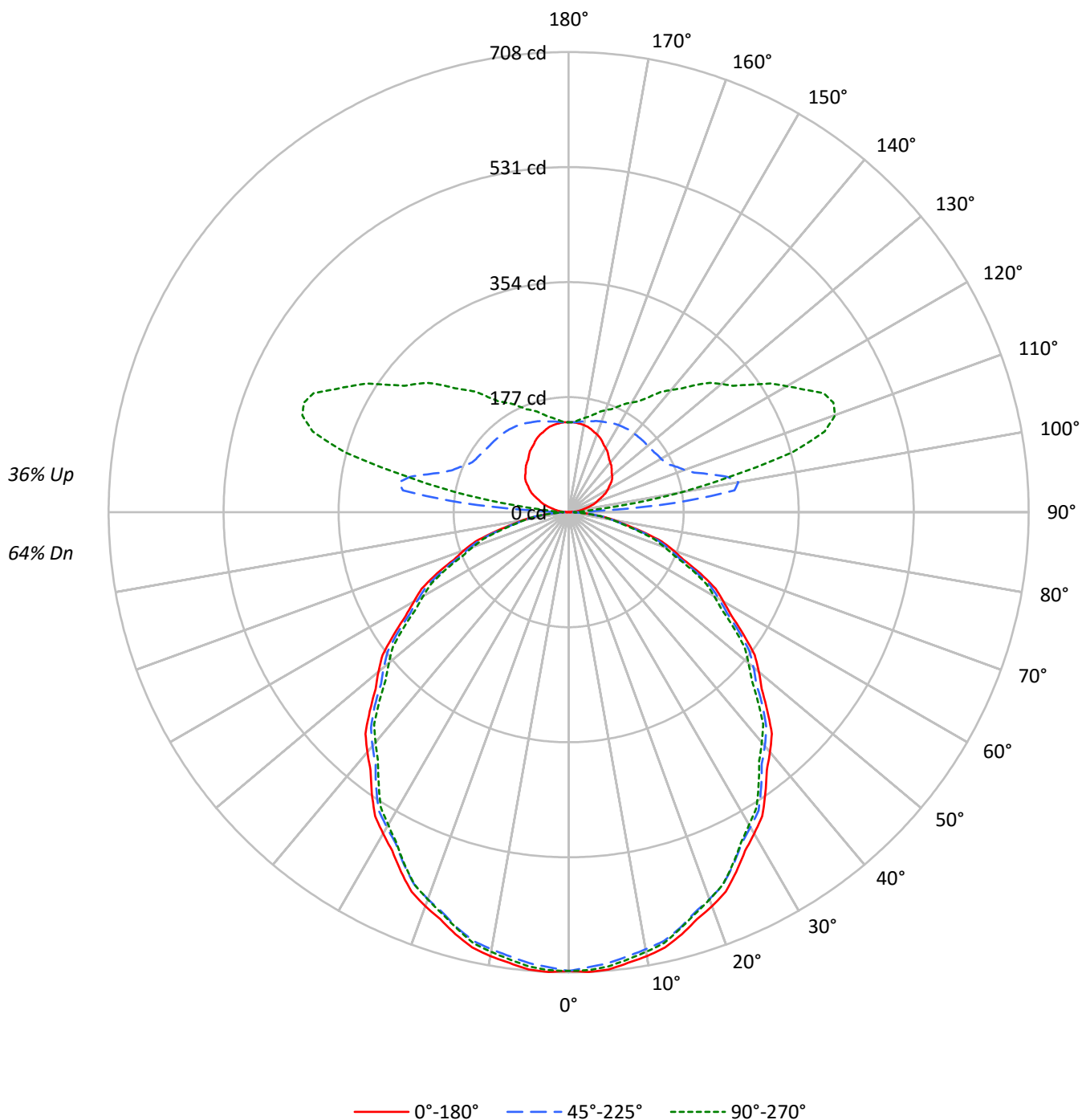
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91		79	79	79		69
1	101	96	92	89	94	91	87	84	80	77	75		70	68	66		61
2	92	84	78	72	86	79	74	69	70	66	62		61	58	55		53
3	84	74	66	60	78	70	63	58	62	56	52		54	50	47		47
4	77	65	57	51	72	62	54	49	55	49	44		48	44	40		42
5	70	58	50	44	66	55	48	42	49	43	38		43	39	35		38
6	65	52	44	38	61	50	42	37	44	38	33		39	34	30		35
7	60	47	39	34	56	45	38	32	40	34	30		36	31	27		32
8	56	43	35	30	52	41	34	29	37	31	26		33	28	24		29
9	52	39	32	27	49	38	30	26	34	28	24		30	25	22		27
10	49	36	29	24	46	35	28	23	31	25	21		28	23	20		25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	2.3
10°-20°	187.7	6.5
20°-30°	277.3	9.6
30°-40°	323.9	11.3
40°-50°	325.6	11.3
50°-60°	286.0	9.9
60°-70°	213.1	7.4
70°-80°	121.4	4.2
80°-90°	35.9	1.2
90°-100°	77.0	2.7
100°-110°	217.9	7.6
110°-120°	214.4	7.4
120°-130°	171.0	5.9
130°-140°	134.8	4.7
140°-150°	100.6	3.5
150°-160°	70.1	2.4
160°-170°	41.2	1.4
170°-180°	13.4	0.5
0°-30°	531.5	18.5
0°-40°	855.4	29.7
0°-60°	1467.0	51.0
0°-90°	1837.5	63.8
90°-120°	509.3	17.7
90°-150°	915.7	31.8
90°-180°	1040.0	36.1
0°-180°	2877.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	1	3	7	8	8	2
95°	10	31	166	48	32	10
105°	32	48	225	394	356	35
115°	57	72	172	378	433	57
125°	80	94	161	291	342	71
135°	94	112	158	240	277	72
145°	107	122	156	197	216	67
155°	121	131	152	172	179	56
165°	132	136	145	154	156	37
175°	138	138	139	141	141	13
180°	138	138	138	138	138	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.8	12.5	12.3	12.1	12.0	11.8	11.9	12.0	12.0	12.0	11.9
90°	0.6	1.1	1.7	2.5	3.1	3.6	4.5	5.3	6.2	7.0	6.7
92.5°	3.5	5.1	7.5	9.7	12.0	16.2	23.5	35.6	47.4	43.0	32.5
95°	9.5	10.4	13.5	18.2	25.5	36.4	60.2	101.9	147.8	166.0	134.7
97.5°	16.2	16.5	18.9	23.1	30.3	42.1	64.8	111.8	188.4	257.3	275.2
100°	20.8	21.0	23.0	26.9	33.6	44.5	64.1	105.5	179.2	265.1	320.3
102.5°	25.4	25.9	27.6	31.4	37.4	47.5	65.0	100.1	165.7	250.6	322.5
105°	32.5	33.4	35.0	38.3	43.6	52.4	67.5	96.3	149.2	225.1	305.4
107.5°	40.0	40.8	42.5	45.7	50.7	58.8	72.1	96.0	138.7	202.6	275.5
110°	45.3	46.2	47.6	50.7	55.5	63.3	75.9	97.1	134.7	189.8	256.7

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	50.3	51.1	52.5	55.6	60.4	68.0	79.7	99.4	132.4	181.3	240.3
115°	57.4	58.5	60.2	63.0	67.7	75.3	86.0	103.0	131.6	172.1	220.6
117.5°	64.5	65.8	67.2	69.8	75.1	82.1	92.6	107.8	132.1	166.8	208.7
120°	69.4	70.3	71.7	74.5	79.8	86.7	96.9	111.4	133.0	164.3	202.4
122.5°	73.7	74.5	75.9	79.0	84.1	91.5	101.3	114.8	134.5	162.8	197.3
125°	79.8	80.3	82.0	85.1	90.4	98.0	107.8	120.1	136.9	160.7	190.7
127.5°	84.4	85.2	87.4	90.5	96.3	103.9	113.4	124.5	139.6	159.7	184.8
130°	87.4	88.2	90.7	94.0	100.0	107.5	116.8	127.4	141.4	159.0	181.6
132.5°	89.6	90.6	93.4	97.4	103.3	110.7	119.6	130.1	142.8	158.8	178.8
135°	93.5	94.6	97.7	101.9	107.8	115.3	124.0	133.6	144.7	158.4	175.0
137.5°	97.2	98.4	101.4	105.8	111.7	118.7	127.1	136.1	146.1	157.8	171.7
140°	99.7	101.1	103.9	108.4	113.9	121.0	129.0	137.4	146.9	157.6	169.6
142.5°	102.3	103.5	106.5	110.6	116.2	122.7	130.6	138.8	147.7	157.2	167.9
145°	106.6	107.5	110.0	114.2	119.0	125.4	132.7	140.2	148.1	156.5	165.4
147.5°	111.1	111.5	114.0	117.6	122.2	127.7	134.4	141.2	148.1	155.4	163.1
150°	113.9	114.2	116.5	120.1	124.0	129.0	135.5	141.4	148.1	154.6	161.5
152.5°	116.8	116.9	119.1	122.3	125.8	130.6	136.2	141.8	147.4	153.4	159.7
155°	121.2	121.2	122.9	125.7	128.8	132.7	137.4	142.0	146.7	151.5	157.0
157.5°	124.7	124.9	126.3	128.7	131.3	134.4	138.2	142.2	145.8	149.7	154.0
160°	127.4	127.4	128.5	130.7	132.7	135.5	138.9	142.2	145.3	148.4	152.0
162.5°	129.4	129.4	130.3	132.1	133.8	136.2	139.1	142.0	144.4	147.0	150.0
165°	132.4	132.1	132.7	134.1	135.2	137.2	139.4	141.4	143.1	145.0	147.3
167.5°	134.7	134.4	134.7	135.7	136.5	137.8	139.3	140.9	141.7	143.0	144.7
170°	136.0	135.5	135.8	136.6	137.2	137.8	139.1	140.2	140.9	141.6	143.1
172.5°	137.0	136.6	136.7	137.3	137.6	137.9	139.1	140.1	140.1	140.5	141.5
175°	138.0	137.8	137.4	138.0	138.0	138.3	138.9	139.4	139.1	139.1	139.7
177.5°	138.6	138.3	138.1	138.3	138.3	138.3	138.6	138.9	138.6	138.3	138.6
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	11.9	11.8	11.7	11.8	11.7	11.8	11.9	11.8
90°	7.0	7.3	7.5	8.1	7.8	8.1	8.4	8.1
92.5°	23.6	18.7	16.5	15.1	14.6	13.7	14.0	13.5
95°	100.8	68.3	53.5	43.4	38.1	35.6	33.6	32.5
97.5°	251.2	201.2	165.1	131.7	111.0	98.4	90.8	88.4
100°	330.0	307.4	274.6	234.9	206.6	186.2	175.2	175.5
102.5°	356.2	355.5	336.4	311.2	289.2	273.1	264.0	257.5
105°	363.9	391.9	397.2	390.0	377.1	366.5	357.5	356.1
107.5°	341.8	387.3	411.9	421.8	422.1	418.4	415.4	412.9
110°	320.8	372.3	407.6	427.2	435.1	437.3	436.7	436.2

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	300.0	352.6	392.1	417.3	431.7	438.6	440.8	440.8
115°	272.4	321.1	362.3	392.8	413.8	426.0	431.7	433.1
117.5°	252.4	294.5	331.4	362.3	384.3	398.4	406.4	408.3
120°	241.9	279.6	313.2	341.5	363.6	379.3	386.0	387.7
122.5°	233.6	267.8	298.9	325.2	344.8	358.9	366.3	368.4
125°	222.5	253.1	280.0	302.4	320.3	332.6	339.6	341.5
127.5°	212.9	240.1	264.4	284.8	300.7	311.2	317.6	319.3
130°	206.8	232.1	254.8	273.8	288.6	298.7	304.6	306.8
132.5°	201.3	224.4	245.6	263.7	277.7	287.7	292.9	294.5
135°	193.7	213.6	231.8	247.7	261.5	269.9	274.9	276.9
137.5°	186.8	203.1	218.8	232.7	244.2	252.7	256.9	258.3
140°	182.8	197.1	210.5	222.5	233.2	241.1	245.5	245.3
142.5°	179.0	191.2	202.9	213.3	222.4	229.4	233.4	233.1
145°	174.4	183.6	192.6	200.7	207.7	213.6	215.9	216.4
147.5°	170.6	178.0	185.2	191.0	196.3	200.3	202.4	202.6
150°	167.9	174.4	180.3	185.6	189.8	192.9	194.6	194.6
152.5°	165.5	171.0	176.3	180.7	183.9	186.8	187.8	187.8
155°	161.8	166.3	170.5	173.8	176.3	178.6	179.2	179.4
157.5°	157.9	161.6	164.9	167.5	169.7	171.3	171.8	171.7
160°	155.7	158.8	161.5	163.5	165.4	167.2	167.2	166.8
162.5°	153.0	155.6	158.2	159.9	161.2	162.6	162.6	162.4
165°	149.5	151.1	153.1	154.6	155.7	156.8	156.5	156.5
167.5°	146.5	147.7	148.9	149.9	150.4	151.1	150.9	150.9
170°	144.4	145.3	146.4	146.9	147.3	147.8	147.5	147.5
172.5°	142.7	143.3	144.2	144.5	144.6	145.1	144.7	144.4
175°	140.2	140.5	141.1	141.1	141.1	141.4	141.1	140.9
177.5°	138.7	138.9	139.2	139.2	138.9	139.2	138.7	138.7
180°	138.3	138.3	138.3	138.3	138.3	138.3	138.3	138.3

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