

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: P331936-830

Luminaire Tested: **S123DIP-S560D805U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331936-830
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-S560D805U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4926.5 lumens
Efficiency: N/A
Efficacy: 128.3 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: General Diffuse

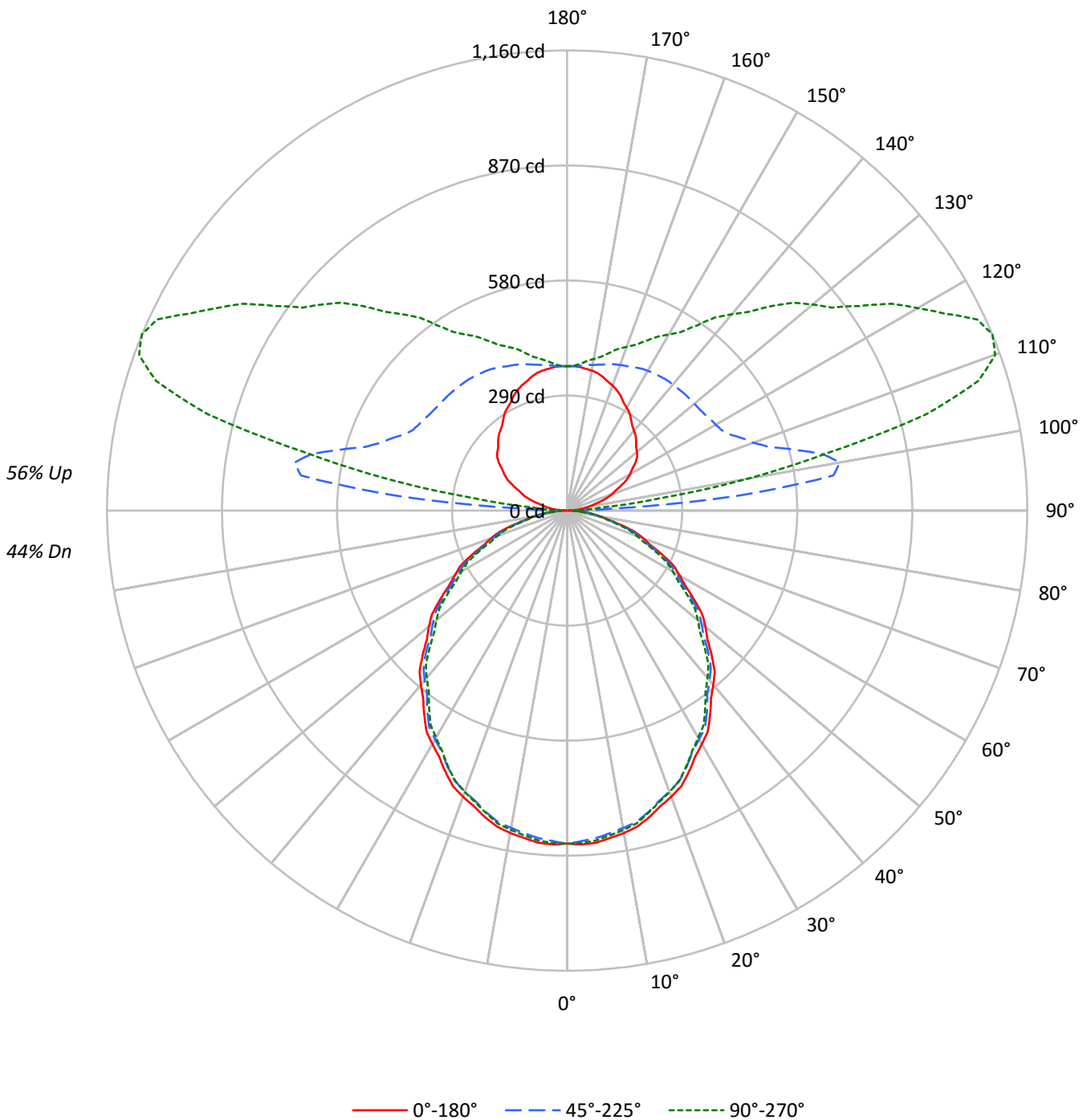
Input Watts (W): 38.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																				
0	106	106	106	106	97	97	97	97	80	80	80		65	65	65		51	51	51	44
1	96	92	88	85	88	85	81	78	70	68	66		57	55	54		45	44	43	37
2	88	80	74	69	80	74	69	64	61	58	54		50	47	45		40	38	36	31
3	80	71	63	58	73	65	59	54	54	49	46		44	41	38		35	33	31	26
4	73	62	55	49	67	57	51	45	48	43	39		39	36	33		31	29	26	23
5	67	56	48	42	61	51	44	39	43	38	33		35	31	28		28	25	23	20
6	62	50	42	36	56	46	39	34	39	33	29		32	28	25		26	23	20	17
7	57	45	37	32	52	42	35	30	35	30	26		29	25	22		23	20	18	15
8	53	41	33	28	48	38	31	26	32	27	23		26	22	19		21	18	16	14
9	49	37	30	25	45	34	28	23	29	24	20		24	20	17		20	17	15	12
10	46	34	27	22	42	32	25	21	27	22	18		22	19	16		18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9038	9038	9038
5°	9081	8956	9018
10°	9021	8878	8933
15°	8914	8778	8795
20°	8791	8635	8643
25°	8626	8464	8445
30°	8444	8274	8211
35°	8253	8073	7970
40°	8056	7852	7731
45°	7837	7649	7462
50°	7618	7400	7194
55°	7330	7141	6923
60°	7042	6837	6622
65°	6788	6510	6306
70°	6408	6134	5860
75°	5856	5644	5407
80°	5281	5058	5015
85°	4631	4458	4286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.6
10°-20°	223.3	4.5
20°-30°	329.9	6.7
30°-40°	385.4	7.8
40°-50°	387.4	7.9
50°-60°	340.3	6.9
60°-70°	253.5	5.1
70°-80°	144.5	2.9
80°-90°	44.3	0.9
90°-100°	202.6	4.1
100°-110°	573.6	11.6
110°-120°	564.3	11.5
120°-130°	450.1	9.1
130°-140°	354.9	7.2
140°-150°	264.9	5.4
150°-160°	184.6	3.7
160°-170°	108.5	2.2
170°-180°	35.3	0.7
0°-30°	632.3	12.8
0°-40°	1017.7	20.7
0°-60°	1745.5	35.4
0°-90°	2187.8	44.4
90°-120°	1340.5	27.2
90°-150°	2410.4	48.9
90°-180°	2739.0	55.6
0°-180°	4926.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	840	837	829	836	835	80
15°	800	797	788	793	789	225
25°	726	722	713	713	711	334
35°	628	624	614	610	606	393
45°	515	512	502	494	490	397
55°	391	389	380	373	369	350
65°	266	263	256	250	248	263
75°	141	138	136	132	130	151
85°	38	36	36	35	35	41
90°	2	9	18	21	21	4
95°	25	81	437	127	86	27
105°	86	126	592	1036	937	91
115°	151	188	453	994	1140	150
125°	210	248	423	766	899	186
135°	246	294	417	631	729	190
145°	281	322	412	518	570	176
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	842.5	842.1	841.6	841.0	840.6	839.5	838.1	836.7	835.4	834.0	835.2
5°	840.4	839.6	838.8	838.0	837.2	835.9	834.2	832.4	830.7	828.9	830.5
7.5°	832.2	831.4	830.6	829.8	829.0	827.6	825.9	824.0	822.2	820.4	821.8
10°	825.3	824.4	823.7	822.8	822.1	820.6	818.5	816.4	814.4	812.3	813.7
12.5°	816.1	815.3	814.6	814.0	813.3	812.0	810.0	808.0	806.2	804.2	805.2
15°	799.9	799.4	798.7	798.1	797.4	796.1	794.0	791.9	789.8	787.7	789.0
17.5°	781.4	780.5	779.7	778.8	778.0	776.6	774.5	772.4	770.3	768.2	769.1
20°	767.5	766.6	765.5	764.6	763.6	762.1	760.1	758.0	755.8	753.8	754.4
22.5°	751.9	750.9	750.0	749.0	748.0	746.5	744.4	742.3	740.3	738.2	738.7
25°	726.3	725.4	724.4	723.5	722.5	721.0	718.9	716.8	714.7	712.7	712.8
27.5°	699.1	698.1	697.2	696.3	695.3	693.7	691.4	689.3	687.0	684.8	684.9
30°	679.4	678.6	677.8	677.0	676.2	674.7	672.4	670.1	668.0	665.7	665.7
32.5°	659.8	658.7	657.6	656.6	655.5	654.1	652.4	650.6	648.9	647.2	646.3
35°	628.1	627.2	626.2	625.3	624.3	622.7	620.7	618.6	616.5	614.4	613.5
37.5°	595.8	594.6	593.3	592.1	590.9	589.3	587.1	585.0	582.9	580.8	579.7
40°	573.3	572.3	571.4	570.4	569.4	567.8	565.5	563.4	561.1	558.8	557.5
42.5°	550.7	549.7	548.6	547.4	546.4	544.7	542.4	540.3	538.0	535.7	534.4
45°	514.8	514.2	513.5	512.8	512.2	510.9	508.8	506.7	504.6	502.5	500.6
47.5°	479.1	478.2	477.3	476.4	475.4	473.9	472.0	470.0	468.1	466.1	464.2
50°	454.9	454.0	453.3	452.4	451.7	450.3	448.1	446.0	443.9	441.9	440.1
52.5°	429.4	428.9	428.4	427.8	427.3	425.8	423.7	421.5	419.2	417.1	415.6
55°	390.6	390.4	390.3	390.1	389.9	388.8	386.7	384.7	382.6	380.5	378.7
57.5°	353.6	353.1	352.5	352.0	351.5	350.3	348.6	347.0	345.3	343.7	342.1
60°	327.1	326.9	326.8	326.6	326.4	325.4	323.5	321.5	319.6	317.6	316.2
62.5°	303.4	302.9	302.6	302.2	301.7	300.6	298.6	296.7	294.7	292.8	291.4
65°	266.5	265.6	264.9	264.0	263.3	262.0	260.4	258.8	257.2	255.6	254.3
67.5°	227.2	226.6	225.8	225.2	224.4	223.5	222.3	221.0	219.8	218.7	217.5
70°	203.6	202.6	201.7	200.8	199.7	198.8	197.8	196.9	195.9	194.9	193.8
72.5°	178.8	178.0	177.4	176.6	176.0	175.0	174.0	172.9	171.7	170.7	169.7
75°	140.8	140.2	139.5	138.8	138.3	137.7	137.1	136.7	136.2	135.7	135.0
77.5°	107.2	106.8	106.4	106.1	105.8	105.3	104.7	104.2	103.5	102.9	102.5
80°	85.2	84.7	84.3	83.8	83.2	82.8	82.6	82.2	81.9	81.6	81.4
82.5°	63.8	63.7	63.6	63.5	63.4	63.3	63.3	63.2	63.2	63.2	62.8
85°	37.5	37.2	36.9	36.6	36.3	36.1	36.1	36.1	36.1	36.1	35.8
87.5°	15.3	15.3	15.2	15.2	15.1	15.2	15.5	15.7	16.1	16.4	16.1
90°	1.5	2.9	4.4	6.6	8.1	9.6	11.8	14.0	16.2	18.4	17.7
92.5°	9.1	13.6	19.8	25.5	31.7	42.6	61.9	93.6	124.7	113.3	85.5
95°	25.1	27.2	35.3	47.9	67.0	95.8	158.4	268.2	389.1	437.0	354.5
97.5°	42.7	43.5	49.9	60.7	79.6	110.7	170.5	294.4	495.8	677.2	724.5
100°	54.6	55.2	60.4	70.8	88.4	117.2	168.7	277.8	471.6	697.9	843.0
102.5°	66.9	68.2	72.8	82.6	98.5	124.8	171.1	263.6	436.2	659.5	848.9
105°	85.5	87.7	92.1	100.9	115.0	137.8	177.6	253.4	392.8	592.5	804.0
107.5°	105.2	107.4	111.7	120.4	133.6	154.8	189.6	252.8	365.0	533.2	725.3
110°	119.4	121.6	125.3	133.4	145.9	166.5	199.7	255.7	354.5	499.6	675.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.3	134.6	138.3	146.4	158.9	178.9	209.7	261.6	348.6	477.2	632.7
115°	151.1	154.0	158.4	165.8	178.3	198.2	226.2	271.2	346.4	453.2	580.7
117.5°	169.8	173.1	176.8	183.6	197.7	216.0	243.7	283.9	347.7	439.0	549.3
120°	182.8	184.9	188.6	196.0	210.0	228.5	255.0	293.3	350.1	432.5	532.8
122.5°	194.0	196.1	199.8	207.8	221.2	240.8	266.7	302.1	354.1	428.5	519.2
125°	210.0	211.5	215.9	224.0	238.0	257.9	283.7	316.1	360.3	423.0	501.8
127.5°	222.3	224.4	229.9	238.2	253.6	273.5	298.4	327.6	367.4	420.4	486.5
130°	229.9	232.1	238.7	247.6	263.1	283.0	307.3	335.3	372.1	418.6	478.2
132.5°	235.8	238.7	245.8	256.5	271.9	291.2	314.9	342.3	375.7	417.9	470.6
135°	246.1	249.1	257.2	268.2	283.7	303.6	326.4	351.5	381.0	417.1	460.5
137.5°	255.8	258.9	266.9	278.7	294.0	312.5	334.4	358.3	384.6	415.5	451.9
140°	262.3	266.0	273.4	285.2	299.9	318.3	339.7	361.8	386.9	414.9	446.6
142.5°	269.4	272.5	280.5	291.1	305.9	323.0	343.8	365.3	388.6	413.7	441.9
145°	280.8	283.0	289.6	300.7	313.2	330.2	349.3	369.2	389.8	411.9	435.5
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.3
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	836.5	837.7	839.1	839.6	839.5	839.3	839.2	839.1
5°	832.1	833.7	835.3	835.9	835.6	835.3	835.0	834.6
7.5°	823.2	824.6	826.1	826.7	826.5	826.3	826.1	826.0
10°	815.1	816.6	818.0	818.6	818.3	817.9	817.7	817.3
12.5°	806.3	807.4	808.4	808.8	808.6	808.4	808.2	808.0
15°	790.3	791.5	792.9	793.0	792.0	791.1	790.1	789.2
17.5°	770.1	770.9	771.8	772.0	771.8	771.4	771.0	770.6
20°	755.1	755.7	756.3	756.4	755.9	755.4	755.0	754.5
22.5°	739.2	739.7	740.3	740.2	739.6	739.0	738.4	737.7
25°	712.9	713.1	713.2	713.1	712.7	712.2	711.6	711.1
27.5°	685.0	685.1	685.2	685.0	684.4	683.8	683.2	682.6
30°	665.7	665.7	665.7	665.2	664.0	662.9	661.8	660.6
32.5°	645.5	644.5	643.6	642.8	642.2	641.7	641.0	640.5
35°	612.5	611.5	610.6	609.7	608.9	608.1	607.3	606.5
37.5°	578.4	577.3	576.2	575.3	574.9	574.3	573.8	573.3
40°	556.3	555.0	553.7	552.7	552.0	551.5	550.8	550.2
42.5°	533.2	531.9	530.6	529.6	529.0	528.4	527.7	527.1
45°	498.7	496.7	494.8	493.4	492.7	491.8	491.1	490.2
47.5°	462.3	460.4	458.5	457.2	456.6	455.8	455.2	454.4
50°	438.4	436.6	434.8	433.5	432.4	431.5	430.6	429.6
52.5°	414.1	412.6	411.0	409.7	408.8	407.8	406.9	406.0
55°	376.9	375.2	373.4	372.1	371.4	370.5	369.8	368.9
57.5°	340.5	338.9	337.4	336.1	335.2	334.3	333.4	332.4
60°	314.8	313.4	311.9	310.8	310.0	309.2	308.4	307.6
62.5°	289.9	288.5	287.1	286.1	285.5	285.0	284.5	283.9
65°	253.0	251.8	250.4	249.6	249.1	248.6	248.2	247.6
67.5°	216.4	215.3	214.1	213.2	212.5	211.9	211.2	210.6
70°	192.7	191.6	190.5	189.5	188.7	187.8	187.1	186.2
72.5°	168.7	167.7	166.7	166.0	165.6	165.1	164.8	164.3
75°	134.1	133.4	132.5	131.9	131.4	130.9	130.4	130.0
77.5°	101.9	101.3	100.8	100.5	100.5	100.5	100.5	100.5
80°	81.2	81.1	81.0	80.9	80.9	80.9	80.9	80.9
82.5°	62.5	62.2	61.9	61.7	61.6	61.5	61.4	61.3
85°	35.4	35.2	34.8	34.7	34.7	34.7	34.7	34.7
87.5°	16.1	16.1	16.2	16.4	16.2	16.4	16.6	16.4
90°	18.4	19.1	19.9	21.4	20.6	21.4	22.1	21.4
92.5°	62.0	49.2	43.5	39.7	38.4	36.1	36.9	35.5
95°	265.3	179.8	140.7	114.2	100.2	93.6	88.4	85.5
97.5°	661.3	529.7	434.6	346.5	292.1	258.9	239.0	232.7
100°	868.8	809.1	722.9	618.2	543.8	490.0	461.3	462.0
102.5°	937.7	935.9	885.6	819.3	761.4	718.8	694.7	677.8
105°	958.0	1031.6	1045.7	1026.5	992.6	964.6	941.0	937.4
107.5°	899.9	1019.5	1084.1	1110.3	1111.0	1101.5	1093.5	1086.8
110°	844.5	980.1	1072.9	1124.5	1145.1	1151.0	1149.5	1148.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	789.7	928.2	1032.3	1098.5	1136.3	1154.6	1160.2	1160.5
115°	717.0	845.2	953.6	1033.9	1089.1	1121.5	1136.3	1140.0
117.5°	664.4	775.1	872.3	953.9	1011.4	1048.6	1069.8	1074.9
120°	636.7	736.1	824.6	899.0	957.2	998.5	1016.2	1020.6
122.5°	614.9	704.9	786.8	856.0	907.7	944.8	964.3	969.9
125°	585.8	666.2	736.9	795.9	843.0	875.4	893.8	899.0
127.5°	560.5	632.1	696.0	749.6	791.5	819.3	835.9	840.7
130°	544.6	610.9	670.6	720.7	759.8	786.3	801.7	807.7
132.5°	529.8	590.9	646.4	694.2	730.8	757.4	771.1	775.2
135°	509.9	562.2	610.1	652.1	688.2	710.4	723.6	728.8
137.5°	491.8	534.7	576.0	612.4	642.7	665.2	676.4	679.8
140°	481.2	518.8	554.1	585.8	613.9	634.4	646.3	645.5
142.5°	471.2	503.4	534.1	561.7	585.5	603.8	614.4	613.7
145°	459.1	483.4	507.0	528.4	546.8	562.2	568.2	569.6
147.5°	449.2	468.5	487.6	502.8	516.7	527.2	532.8	533.4
150°	442.1	459.1	474.6	488.5	499.6	507.7	512.2	512.2
152.5°	435.6	450.3	463.9	475.6	484.3	491.8	494.5	494.5
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

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