

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: P331356-927

Luminaire Tested: **SA2XXDIP-C675D725U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331356-927  
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: SA2XXDIP-C675D725U927-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

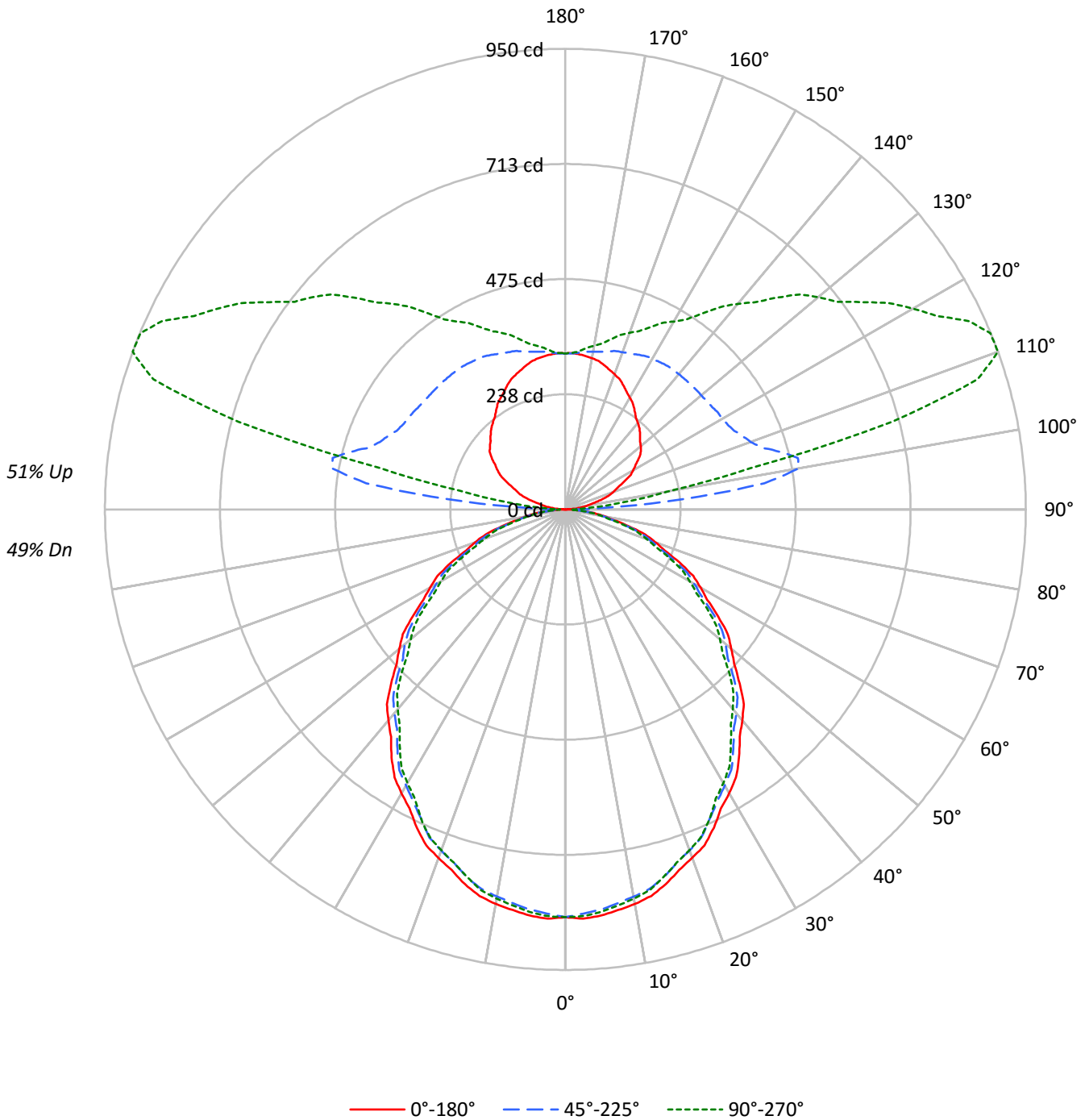
Lumens per Lamp: N/A  
Luminaire Lumens: 4383.4 lumens  
Efficiency: N/A  
Efficacy: 95.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49
1	98	93	89	86	90	86	83	80	72	70	68	60	58	57	49	48	46	41
2	89	81	75	70	82	75	70	65	64	60	56	53	50	47	43	41	39	34
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	51	42	37	58	47	40	35	40	34	30	34	29	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	21	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13580	13580	13580
5°	13632	13434	13514
10°	13550	13298	13365
15°	13382	13125	13112
20°	13144	12866	12854
25°	12909	12549	12549
30°	12603	12258	12152
35°	12321	11907	11732
40°	11965	11556	11335
45°	11615	11209	10930
50°	11233	10846	10462
55°	10835	10427	10038
60°	10395	9923	9558
65°	9918	9425	8993
70°	9314	8818	8398
75°	8478	8122	7923
80°	7522	7290	6918
85°	6150	5835	5243



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.1	1.8
10°-20°	222.5	5.1
20°-30°	327.1	7.5
30°-40°	379.9	8.7
40°-50°	379.5	8.7
50°-60°	331.0	7.6
60°-70°	244.7	5.6
70°-80°	138.6	3.2
80°-90°	40.2	0.9
90°-100°	128.7	2.9
100°-110°	436.9	10.0
110°-120°	464.2	10.6
120°-130°	382.1	8.7
130°-140°	306.8	7.0
140°-150°	231.9	5.3
150°-160°	163.0	3.7
160°-170°	95.9	2.2
170°-180°	31.2	0.7
0°-30°	628.7	14.3
0°-40°	1008.6	23.0
0°-60°	1719.1	39.2
0°-90°	2142.7	48.9
90°-120°	1029.8	23.5
90°-150°	1950.7	44.5
90°-180°	2241.0	51.1
0°-180°	4383.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	841	841	841	841	841	
5°	841	838	829	835	834	80
15°	801	795	785	788	784	225
25°	725	718	704	706	704	333
35°	625	617	604	599	595	390
45°	509	503	491	482	479	392
55°	385	380	370	361	357	344
65°	260	254	247	240	235	257
75°	136	134	130	126	127	145
85°	33	32	32	29	28	38
90°	1	8	21	20	20	3
95°	22	53	243	92	71	23
105°	76	114	459	820	698	80
115°	133	168	384	792	918	132
125°	186	220	369	642	745	165
135°	218	260	365	539	617	168
145°	249	286	363	451	493	156
155°	283	306	352	398	414	130
165°	308	318	338	358	364	87
175°	321	322	324	328	328	31
180°	322	322	322	322	322	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1
2.5°	844.9	844.2	843.5	842.8	842.1	840.9	839.3	837.7	836.1	834.6	836.0
5°	841.1	840.3	839.6	838.9	838.2	836.9	834.9	832.9	830.9	828.9	830.4
7.5°	833.6	832.5	831.4	830.3	829.2	827.6	825.6	823.6	821.6	819.5	820.9
10°	826.5	825.2	823.9	822.7	821.5	819.8	817.6	815.5	813.3	811.1	812.5
12.5°	816.8	815.7	814.5	813.4	812.3	810.7	808.5	806.4	804.2	802.1	803.1
15°	800.6	799.5	798.4	797.4	796.3	794.6	792.3	789.9	787.6	785.2	786.0
17.5°	779.9	778.8	777.8	776.7	775.6	773.9	771.5	769.1	766.8	764.4	765.2
20°	765.0	764.0	762.9	761.8	760.7	758.9	756.4	753.9	751.4	748.8	749.4
22.5°	750.1	748.6	747.1	745.6	744.1	742.2	739.8	737.4	735.1	732.7	732.8
25°	724.6	723.2	721.8	720.3	718.8	716.6	713.5	710.5	707.4	704.4	704.7
27.5°	695.5	694.2	692.9	691.6	690.3	688.5	686.0	683.7	681.2	678.8	678.3
30°	676.0	674.6	673.2	671.8	670.3	668.3	665.6	662.9	660.2	657.5	657.0
32.5°	655.4	654.2	653.1	651.9	650.8	648.8	645.9	643.1	640.2	637.4	636.4
35°	625.1	623.4	621.5	619.7	617.9	615.6	612.8	609.8	607.0	604.1	603.0
37.5°	591.0	589.4	587.8	586.2	584.7	582.4	579.6	576.7	573.9	570.9	569.6
40°	567.7	566.3	564.8	563.4	562.0	559.8	556.9	554.1	551.2	548.3	546.7
42.5°	545.1	543.6	542.2	540.7	539.3	537.2	534.2	531.4	528.5	525.7	523.9
45°	508.7	507.4	506.1	504.9	503.7	501.7	499.0	496.3	493.6	490.9	488.9
47.5°	472.5	471.3	470.1	468.9	467.7	465.7	462.9	460.1	457.3	454.5	452.4
50°	447.2	446.3	445.4	444.5	443.6	441.9	439.4	436.9	434.4	431.8	429.4
52.5°	422.6	421.4	420.3	419.1	417.9	416.1	413.8	411.4	409.0	406.6	404.6
55°	384.9	383.9	382.8	381.7	380.6	379.0	376.8	374.7	372.6	370.4	368.2
57.5°	347.1	346.3	345.4	344.5	343.6	342.1	339.7	337.3	334.9	332.6	330.4
60°	321.9	321.2	320.4	319.7	319.0	317.3	314.9	312.4	309.8	307.3	305.3
62.5°	297.3	296.1	295.0	293.8	292.7	291.1	289.2	287.2	285.3	283.4	281.5
65°	259.6	258.5	257.5	256.4	255.2	253.8	252.1	250.3	248.4	246.7	245.0
67.5°	221.3	220.4	219.5	218.6	217.8	216.6	214.9	213.3	211.8	210.1	208.8
70°	197.3	196.6	195.9	195.2	194.5	193.3	191.6	190.0	188.5	186.8	185.5
72.5°	172.8	172.0	171.3	170.6	169.8	169.0	167.9	166.9	165.9	164.8	163.6
75°	135.9	135.5	135.1	134.8	134.4	133.8	132.9	132.0	131.1	130.2	129.1
77.5°	102.9	102.3	101.6	101.0	100.4	100.0	99.6	99.2	98.9	98.5	98.0
80°	80.9	80.7	80.5	80.3	80.2	79.9	79.5	79.1	78.8	78.4	77.9
82.5°	60.2	60.1	60.1	60.0	60.0	59.9	59.7	59.5	59.3	59.0	58.4
85°	33.2	33.0	32.8	32.6	32.4	32.2	32.1	31.9	31.7	31.5	31.0
87.5°	11.8	11.9	12.0	12.0	12.0	12.0	12.4	13.0	13.5	13.2	12.7
90°	0.6	2.5	5.0	6.2	7.4	9.3	12.4	16.7	20.4	21.1	20.4
92.5°	7.5	10.9	15.4	18.1	22.3	28.1	42.1	61.8	79.4	80.5	68.0
95°	21.7	24.2	30.3	35.9	45.8	60.7	89.2	143.1	214.9	242.7	212.4
97.5°	35.3	38.7	45.2	53.6	65.0	81.8	117.6	192.7	312.1	414.4	434.7
100°	47.7	49.5	55.1	65.0	77.4	94.7	127.5	203.1	336.8	489.2	578.4
102.5°	59.1	60.4	66.0	75.9	88.8	106.2	136.5	203.6	327.5	491.7	631.8
105°	75.6	78.0	82.4	91.7	105.3	122.6	151.7	206.8	309.0	458.8	623.6
107.5°	93.4	95.4	99.6	108.1	121.6	139.1	167.3	215.4	299.8	423.7	569.2
110°	105.3	107.7	111.5	119.5	132.5	150.5	177.7	222.3	297.9	406.9	535.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	116.1	118.7	122.9	130.4	142.9	161.4	187.7	229.7	298.3	395.9	511.3
115°	133.2	136.3	140.0	147.3	159.8	176.5	203.1	240.9	301.0	384.0	481.8
117.5°	150.8	153.2	156.9	163.5	175.4	192.7	217.4	252.8	305.4	378.1	463.2
120°	161.6	164.1	167.8	173.4	185.8	203.1	227.3	260.7	308.4	374.6	453.3
122.5°	172.1	174.0	177.7	183.8	196.1	214.0	236.7	267.7	311.9	372.6	444.9
125°	185.8	187.7	191.3	198.8	211.2	228.5	250.8	278.7	317.0	369.1	432.8
127.5°	196.7	199.2	204.4	212.5	224.4	242.2	264.0	288.9	322.4	366.9	421.7
130°	203.1	205.6	211.8	220.5	232.8	250.2	271.9	295.4	326.4	366.0	414.3
132.5°	209.1	212.1	218.7	227.9	240.7	258.1	278.8	301.8	330.3	365.5	408.4
135°	218.0	220.5	227.9	237.2	251.4	268.8	288.6	310.2	335.0	364.7	400.1
137.5°	226.4	229.3	236.8	246.7	260.9	276.9	296.5	316.7	339.2	364.6	394.2
140°	232.8	235.3	242.7	252.6	266.3	282.4	301.0	320.1	341.2	364.1	390.8
142.5°	239.2	241.3	248.2	258.1	271.2	286.4	304.4	323.1	342.7	364.1	387.3
145°	248.9	251.4	257.6	266.9	279.2	292.9	309.7	326.9	344.3	362.9	382.7
147.5°	259.4	261.2	267.1	275.7	286.0	298.1	313.9	329.1	344.8	360.7	378.0
150°	266.3	268.2	273.1	281.1	290.4	301.6	315.8	330.0	344.3	359.2	374.0
152.5°	273.2	274.1	279.0	286.1	294.9	305.1	317.8	330.6	343.3	356.7	370.6
155°	283.0	283.6	287.3	294.1	301.0	310.2	320.8	331.3	341.8	352.4	364.1
157.5°	291.2	291.8	294.8	300.7	306.2	313.9	322.9	331.3	339.0	347.9	358.1
160°	296.6	297.2	299.7	304.7	309.7	316.4	323.8	331.3	337.5	344.9	353.6
162.5°	302.1	301.7	304.2	308.2	312.6	317.9	324.4	330.8	336.0	342.5	349.6
165°	308.4	307.8	309.0	312.8	315.8	319.6	325.1	329.5	333.2	337.5	343.1
167.5°	313.6	312.8	313.9	316.3	318.5	320.9	325.0	328.6	330.3	333.2	336.6
170°	317.0	315.8	316.4	318.3	319.6	321.4	324.5	327.6	328.8	330.7	333.2
172.5°	319.0	318.3	317.9	319.8	320.5	321.9	324.0	326.1	326.9	327.7	329.7
175°	321.4	320.8	320.1	321.4	321.4	322.0	323.2	324.5	323.8	324.5	325.1
177.5°	322.5	321.5	321.0	322.0	322.0	322.0	322.5	323.5	322.5	322.0	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	841.1	841.1	841.1	841.1	841.1	841.1	841.1	841.1
2.5°	837.4	838.9	840.3	840.9	840.6	840.3	840.0	839.8
5°	831.8	833.2	834.6	835.2	834.9	834.5	834.2	833.8
7.5°	822.4	823.9	825.3	825.8	825.4	825.1	824.7	824.3
10°	814.0	815.5	816.9	817.3	816.8	816.3	815.7	815.2
12.5°	804.1	805.1	806.1	806.4	806.0	805.6	805.3	804.9
15°	786.7	787.4	788.1	788.1	787.1	786.2	785.4	784.4
17.5°	766.0	766.8	767.7	767.7	766.8	766.0	765.1	764.2
20°	750.0	750.5	751.0	750.9	750.2	749.5	748.8	748.1
22.5°	732.9	733.0	733.1	732.9	732.5	732.1	731.7	731.3
25°	705.1	705.4	705.8	705.8	705.4	705.1	704.7	704.4
27.5°	677.7	677.2	676.7	676.0	675.1	674.2	673.4	672.5
30°	656.4	655.8	655.3	654.7	653.9	653.2	652.5	651.8
32.5°	635.5	634.5	633.5	632.7	632.0	631.3	630.5	629.8
35°	602.0	600.9	599.8	598.8	597.9	597.0	596.1	595.2
37.5°	568.3	567.0	565.6	564.5	563.6	562.8	562.0	561.1
40°	545.1	543.4	541.9	540.7	540.0	539.2	538.5	537.8
42.5°	522.1	520.4	518.6	517.2	516.2	515.2	514.2	513.2
45°	487.0	485.0	483.0	481.6	480.9	480.2	479.5	478.7
47.5°	450.4	448.2	446.2	444.6	443.5	442.5	441.5	440.5
50°	426.8	424.3	421.8	420.1	419.1	418.3	417.4	416.5
52.5°	402.4	400.4	398.3	396.6	395.5	394.3	393.1	391.9
55°	366.1	363.9	361.8	360.2	359.3	358.5	357.5	356.6
57.5°	328.3	326.1	324.1	322.7	321.9	321.3	320.6	319.9
60°	303.3	301.3	299.4	298.2	297.6	297.1	296.5	296.0
62.5°	279.7	277.9	276.1	274.8	274.1	273.4	272.7	272.0
65°	243.4	241.8	240.2	238.9	238.1	237.1	236.2	235.4
67.5°	207.6	206.4	205.1	204.1	203.4	202.6	201.9	201.2
70°	184.3	183.1	181.8	180.8	180.1	179.4	178.6	177.9
72.5°	162.3	161.1	159.8	158.8	158.3	157.7	157.2	156.5
75°	128.0	127.0	125.9	125.6	125.9	126.3	126.6	127.0
77.5°	97.4	96.9	96.3	95.9	95.3	94.8	94.3	93.8
80°	77.4	76.8	76.3	75.8	75.5	75.1	74.8	74.4
82.5°	57.7	57.0	56.3	55.9	55.8	55.8	55.7	55.6
85°	30.5	29.9	29.4	29.0	28.8	28.7	28.5	28.3
87.5°	12.1	11.5	11.3	11.2	11.0	10.9	10.7	10.5
90°	19.8	18.6	19.8	20.4	20.4	20.4	20.4	20.4
92.5°	54.0	46.3	41.1	37.3	36.8	34.8	35.3	34.3
95°	162.2	124.5	98.5	84.8	76.8	71.9	69.9	70.6
97.5°	378.6	309.7	242.7	198.0	168.4	153.2	144.2	138.9
100°	565.4	488.6	403.8	328.8	277.4	250.8	232.8	221.7
102.5°	687.8	670.4	608.3	528.9	473.1	427.6	405.2	390.1
105°	752.4	822.4	830.4	810.0	771.6	733.2	706.5	697.9
107.5°	705.8	811.2	875.6	905.6	910.5	908.3	903.0	891.4
110°	665.7	776.6	855.8	906.6	933.2	945.0	950.5	949.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	629.1	735.4	820.1	878.4	915.4	935.1	945.6	949.0
115°	583.9	679.3	760.4	824.2	868.2	896.7	912.8	918.4
117.5°	550.0	633.7	707.3	767.1	812.0	842.1	859.0	863.7
120°	533.1	610.0	675.6	732.0	775.3	804.4	822.4	828.5
122.5°	519.8	590.2	652.3	703.2	742.1	770.7	786.7	791.9
125°	500.3	564.1	618.6	665.0	701.0	724.5	740.0	745.0
127.5°	481.2	538.8	590.3	633.1	664.5	686.5	699.9	703.9
130°	468.7	522.0	570.9	611.8	642.1	663.2	675.6	680.6
132.5°	456.9	506.2	551.1	589.5	619.4	640.4	651.8	656.2
135°	440.3	481.2	522.0	556.7	583.4	603.8	614.9	617.4
137.5°	427.1	461.2	493.7	523.9	548.2	565.8	575.5	579.2
140°	418.6	448.4	476.8	504.1	523.9	540.0	549.3	553.0
142.5°	411.7	437.0	461.4	484.3	503.1	517.7	526.0	526.7
145°	401.9	422.3	441.6	459.5	474.4	484.9	491.1	492.9
147.5°	394.3	410.4	425.4	438.6	450.8	459.2	463.4	464.5
150°	388.9	402.5	415.5	426.7	435.9	443.4	447.1	447.7
152.5°	383.4	396.1	407.1	416.8	424.1	430.5	433.2	433.3
155°	375.9	385.8	395.1	401.9	408.7	413.0	415.5	414.3
157.5°	367.1	375.4	383.2	388.5	393.3	397.0	398.1	398.1
160°	361.6	368.4	375.3	379.6	384.0	387.1	387.6	387.6
162.5°	356.2	362.0	367.8	371.2	375.5	377.6	378.3	377.7
165°	348.0	352.4	356.7	359.2	361.6	364.1	364.1	363.5
167.5°	340.2	343.6	346.5	348.8	349.9	351.3	351.1	350.4
170°	336.3	338.1	340.6	341.8	342.5	344.3	343.6	342.5
172.5°	331.8	333.2	335.2	335.9	336.5	337.4	336.8	336.0
175°	326.9	327.6	328.2	328.8	328.8	329.5	328.8	327.6
177.5°	323.5	323.5	324.0	324.0	324.0	324.0	323.5	322.5
180°	322.0	322.0	322.0	322.0	322.0	322.0	322.0	322.0

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