

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: P332561-940

Luminaire Tested: **S124DIP-S575D810U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332561-940  
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: S124DIP-S575D810U940-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4805.3 lumens  
Efficiency: N/A  
Efficacy: 125.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

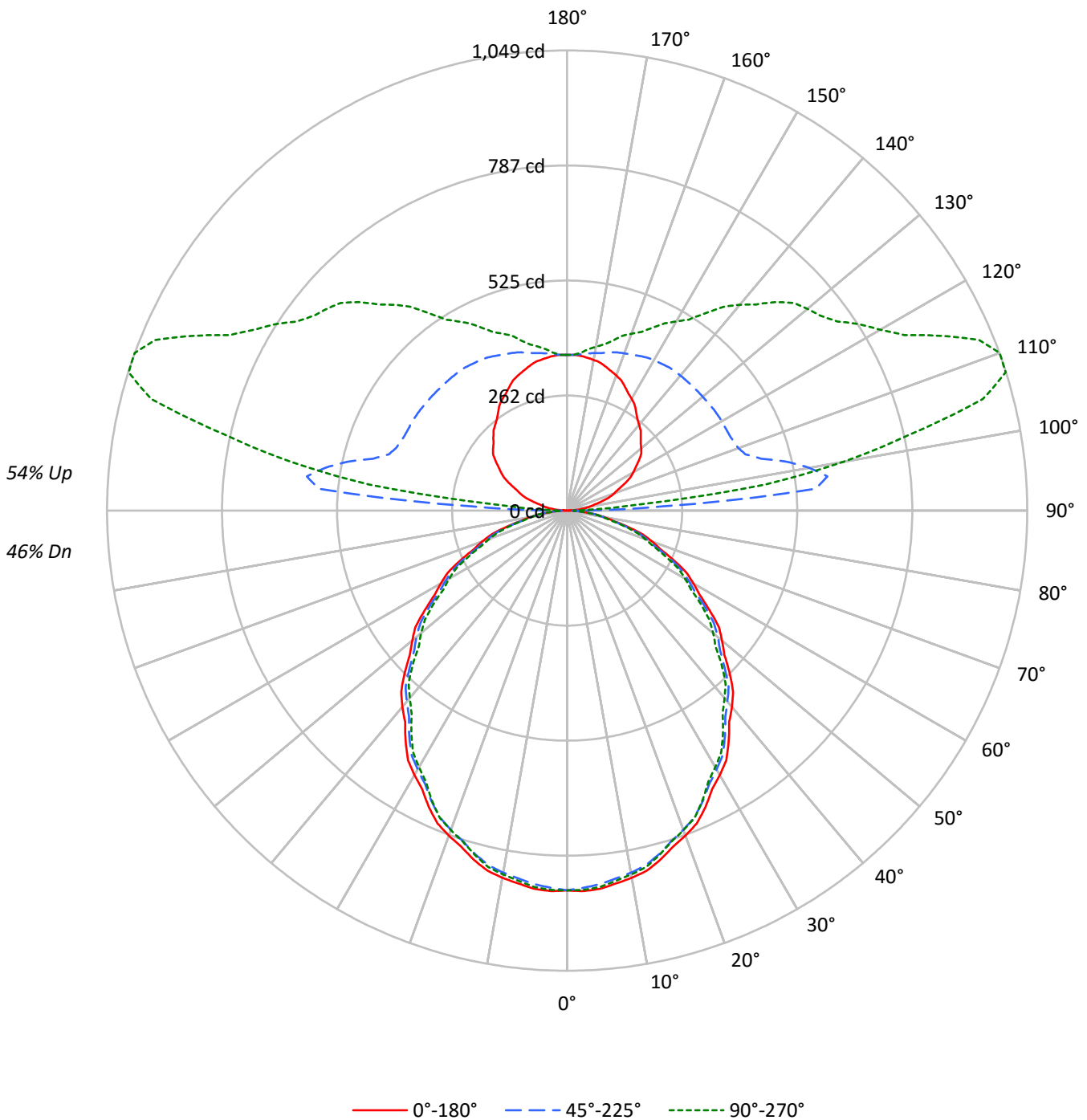
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46				
1	97	93	89	85	89	85	82	79	71	69	67	58	57	55	47	45	44	39				
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37	33				
3	80	71	64	58	74	65	59	54	55	50	46	45	42	39	36	34	32	28				
4	74	63	55	49	67	58	51	46	49	44	39	40	36	33	32	30	27	24				
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21				
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21	18				
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19	16				
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17	14				
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	20	17	15	13				
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12				

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

	0°	45°	90°
0°	6990	6990	6990
5°	7012	6928	6978
10°	6968	6871	6906
15°	6884	6774	6791
20°	6772	6653	6659
25°	6644	6515	6495
30°	6488	6352	6293
35°	6326	6182	6099
40°	6157	5989	5879
45°	5981	5799	5688
50°	5786	5630	5456
55°	5576	5410	5234
60°	5365	5165	5007
65°	5129	4932	4732
70°	4865	4617	4440
75°	4457	4242	4133
80°	3966	3808	3710
85°	3473	3344	3279



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.6	1.7
10°-20°	229.8	4.8
20°-30°	338.2	7.0
30°-40°	393.2	8.2
40°-50°	393.2	8.2
50°-60°	343.9	7.2
60°-70°	255.4	5.3
70°-80°	145.1	3.0
80°-90°	43.8	0.9
90°-100°	256.3	5.3
100°-110°	533.5	11.1
110°-120°	477.9	9.9
120°-130°	402.0	8.4
130°-140°	335.1	7.0
140°-150°	256.1	5.3
150°-160°	180.0	3.7
160°-170°	105.9	2.2
170°-180°	34.4	0.7
0°-30°	649.5	13.5
0°-40°	1042.7	21.7
0°-60°	1779.8	37.0
0°-90°	2224.2	46.3
90°-120°	1267.7	26.4
90°-150°	2260.9	47.0
90°-180°	2581.0	53.7
0°-180°	4805.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	865	862	855	862	861	82
15°	824	820	810	814	812	232
25°	746	741	731	732	729	343
35°	642	637	627	622	619	401
45°	524	519	508	501	498	404
55°	396	394	384	376	372	355
65°	268	265	258	251	248	266
75°	143	139	136	133	132	152
85°	38	37	36	36	35	41
90°	1	6	13	14	15	3
95°	23	72	568	281	170	26
105°	82	118	457	985	981	87
115°	144	180	408	784	942	142
125°	200	238	406	667	752	178
135°	238	283	402	592	672	184
145°	274	314	400	499	549	172
155°	312	336	389	441	460	144
165°	340	350	373	395	401	96
175°	354	355	358	363	361	34
180°	355	355	355	355	355	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9
2.5°	868.2	867.8	867.5	867.1	866.7	865.9	864.5	863.2	861.7	860.4	861.7
5°	865.3	864.7	864.1	863.4	862.8	861.7	860.0	858.3	856.6	854.9	856.6
7.5°	857.2	856.6	856.0	855.4	854.8	853.5	851.7	849.8	847.8	846.0	847.4
10°	850.0	849.4	848.8	848.2	847.6	846.2	844.3	842.2	840.3	838.2	839.5
12.5°	840.6	840.0	839.4	838.7	838.1	836.8	834.6	832.5	830.4	828.2	829.6
15°	823.7	823.0	822.4	821.8	821.2	819.7	817.4	815.1	812.8	810.5	811.4
17.5°	803.3	802.5	801.7	800.9	800.1	798.7	796.5	794.3	792.1	790.0	790.5
20°	788.3	787.5	786.8	786.0	785.2	783.6	781.3	779.0	776.7	774.4	774.8
22.5°	772.1	771.2	770.2	769.1	768.1	766.4	764.1	761.8	759.5	757.2	758.0
25°	745.9	744.8	743.8	742.7	741.6	740.0	737.8	735.7	733.5	731.4	731.6
27.5°	716.0	714.9	713.7	712.7	711.5	710.0	707.9	706.0	703.9	702.0	701.6
30°	696.0	694.7	693.5	692.2	691.1	689.4	687.4	685.4	683.4	681.4	680.8
32.5°	674.8	673.8	672.6	671.5	670.5	668.8	666.7	664.6	662.5	660.3	659.6
35°	641.9	640.8	639.7	638.6	637.6	635.9	633.7	631.6	629.5	627.3	626.2
37.5°	607.0	606.0	605.0	604.0	603.1	601.5	599.1	596.8	594.5	592.2	591.0
40°	584.2	583.0	581.8	580.6	579.3	577.6	575.2	572.9	570.6	568.3	566.8
42.5°	559.8	559.1	558.4	557.6	556.9	555.2	552.7	550.1	547.5	545.0	543.2
45°	523.9	522.8	521.7	520.7	519.6	517.8	515.3	512.8	510.4	507.9	506.2
47.5°	486.2	485.5	484.8	484.0	483.3	481.8	479.6	477.2	474.9	472.7	470.7
50°	460.7	460.1	459.5	458.9	458.3	456.9	454.8	452.5	450.4	448.3	446.1
52.5°	435.8	435.1	434.3	433.5	432.8	431.3	429.0	426.8	424.5	422.1	420.3
55°	396.2	395.7	395.3	394.8	394.4	393.1	390.9	388.7	386.6	384.4	382.5
57.5°	358.5	357.9	357.4	356.9	356.3	355.1	352.9	350.8	348.7	346.5	344.7
60°	332.3	331.6	330.8	330.0	329.3	327.9	325.9	323.9	321.9	319.9	318.5
62.5°	306.8	306.2	305.5	304.9	304.3	302.8	300.8	298.6	296.5	294.4	293.1
65°	268.5	267.8	267.0	266.3	265.5	264.3	262.8	261.2	259.7	258.2	256.5
67.5°	230.0	229.3	228.5	227.8	227.1	226.0	224.5	223.1	221.6	220.1	218.6
70°	206.1	205.0	203.9	202.9	201.8	200.6	199.4	198.1	196.9	195.6	194.5
72.5°	180.6	179.5	178.4	177.3	176.2	175.2	174.2	173.3	172.3	171.2	170.2
75°	142.9	142.1	141.4	140.6	139.8	139.1	138.3	137.5	136.8	136.0	135.4
77.5°	107.0	106.6	106.3	106.0	105.7	105.1	104.4	103.8	103.1	102.5	102.2
80°	85.3	84.9	84.4	84.0	83.5	83.1	82.8	82.5	82.2	81.9	81.6
82.5°	64.3	64.0	63.8	63.6	63.4	63.2	63.2	63.1	63.0	63.0	62.8
85°	37.5	37.5	37.5	37.5	37.5	37.3	37.0	36.7	36.4	36.1	36.1
87.5°	14.5	14.7	15.0	15.1	15.1	14.9	15.6	15.5	15.7	15.9	15.7
90°	0.7	2.1	4.2	4.9	5.6	5.6	9.7	9.7	11.1	12.6	11.9
92.5°	7.9	11.6	18.1	26.7	36.8	51.3	86.8	140.8	193.6	221.1	184.2
95°	23.0	25.1	32.1	41.1	57.9	87.1	147.8	262.2	428.8	568.3	584.3
97.5°	41.3	41.3	47.3	55.6	70.0	94.5	141.2	235.7	401.4	598.5	734.1
100°	53.0	53.0	57.9	66.3	79.5	101.8	142.9	221.8	364.0	560.6	739.0
102.5°	64.1	65.3	69.6	77.4	90.1	111.3	148.5	217.8	338.9	513.2	697.2
105°	81.6	83.6	87.1	95.5	108.1	128.3	161.8	219.6	317.3	457.4	621.3
107.5°	100.9	102.2	105.7	114.6	126.6	146.6	177.3	230.0	313.3	426.1	559.9
110°	113.7	115.0	118.5	126.9	139.5	158.3	189.0	237.7	314.4	415.5	529.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	125.9	127.3	131.3	139.2	151.7	170.6	200.1	246.1	317.8	410.5	511.9
115°	143.7	145.7	150.6	157.6	170.9	189.7	217.6	259.4	324.2	407.9	495.7
117.5°	162.0	164.0	168.4	176.0	188.4	207.9	234.4	272.9	331.1	407.2	488.5
120°	174.3	175.7	180.6	188.2	200.1	219.6	246.1	282.4	336.1	407.2	484.6
122.5°	185.5	186.9	191.7	198.9	211.8	230.8	257.3	291.3	341.1	406.6	480.1
125°	200.1	202.9	207.1	214.7	228.0	247.5	272.6	304.7	348.7	405.8	472.7
127.5°	213.1	215.3	220.3	229.1	242.9	262.6	286.9	316.3	354.6	404.3	462.8
130°	220.3	223.1	228.7	239.2	252.4	272.6	296.3	323.5	359.1	403.7	456.7
132.5°	227.6	229.8	237.1	247.0	261.4	280.4	304.2	330.7	363.0	403.1	451.1
135°	237.7	240.6	247.5	259.4	274.0	292.1	315.1	340.3	368.8	402.3	442.7
137.5°	248.0	250.6	258.2	269.6	284.7	302.0	323.5	347.0	372.3	402.2	435.5
140°	255.2	257.3	264.9	276.8	291.4	308.2	329.1	351.4	375.1	401.6	431.6
142.5°	263.0	265.1	272.2	283.5	297.6	313.8	334.1	354.7	377.4	401.6	428.3
145°	274.0	276.1	283.1	292.8	306.1	321.5	339.6	358.4	378.6	400.2	422.5
147.5°	286.4	287.1	293.3	303.3	314.3	328.1	345.2	361.6	379.3	397.7	417.4
150°	294.3	295.0	300.5	308.9	319.3	332.6	347.9	363.3	379.3	396.0	413.5
152.5°	301.5	301.7	307.2	315.0	324.4	336.5	350.2	364.4	378.2	393.2	409.0
155°	311.7	312.4	316.6	323.5	331.2	341.6	353.5	365.3	376.5	389.1	402.3
157.5°	321.6	321.6	325.5	330.9	337.6	345.8	355.9	365.3	374.7	384.8	395.5
160°	327.7	327.7	330.5	335.4	341.0	348.7	357.0	365.3	373.0	381.4	390.5
162.5°	333.3	332.7	334.9	339.3	344.3	350.3	358.1	365.3	371.4	378.1	386.0
165°	339.6	339.6	341.0	344.5	347.9	352.1	358.4	364.0	368.2	373.0	378.6
167.5°	345.8	345.2	345.8	348.5	350.4	353.7	358.3	362.3	364.8	368.0	371.9
170°	348.7	347.9	348.7	350.7	352.1	354.2	357.7	361.1	362.6	364.6	367.5
172.5°	351.4	350.7	350.9	352.4	353.2	354.7	357.1	360.1	360.3	361.3	363.6
175°	354.2	353.5	353.5	354.2	354.9	354.9	356.3	358.4	357.7	357.7	359.1
177.5°	355.4	354.9	354.4	354.9	354.9	354.9	355.4	356.6	355.4	355.4	356.0
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9
2.5°	862.9	864.2	865.4	865.9	865.8	865.7	865.6	865.4
5°	858.3	860.0	861.7	862.4	862.0	861.7	861.4	861.1
7.5°	848.7	850.1	851.4	852.0	851.9	851.7	851.5	851.2
10°	840.7	842.0	843.2	843.6	843.3	843.0	842.7	842.4
12.5°	831.0	832.3	833.7	834.1	833.7	833.2	832.9	832.4
15°	812.3	813.2	814.1	814.4	814.0	813.5	813.0	812.5
17.5°	791.1	791.7	792.3	792.4	792.1	791.8	791.5	791.2
20°	775.3	775.8	776.2	776.3	776.0	775.7	775.4	775.1
22.5°	758.8	759.6	760.5	760.6	760.1	759.6	759.0	758.4
25°	731.6	731.8	732.0	731.7	731.1	730.5	729.9	729.2
27.5°	701.2	700.8	700.4	699.9	699.1	698.4	697.6	696.8
30°	680.2	679.6	678.9	678.2	677.4	676.7	675.9	675.1
32.5°	658.8	658.1	657.4	656.6	655.9	655.1	654.2	653.5
35°	625.1	624.0	622.9	622.1	621.3	620.5	619.7	618.9
37.5°	589.9	588.6	587.5	586.4	585.4	584.3	583.4	582.3
40°	565.3	563.7	562.1	561.0	560.2	559.5	558.7	557.9
42.5°	541.4	539.6	537.8	536.6	536.2	535.7	535.1	534.6
45°	504.5	502.8	501.1	500.1	499.6	499.2	498.6	498.2
47.5°	468.9	466.9	465.0	463.5	462.4	461.1	459.9	458.8
50°	443.9	441.8	439.6	438.1	437.1	436.2	435.3	434.4
52.5°	418.3	416.4	414.6	413.0	411.8	410.6	409.5	408.3
55°	380.8	378.9	377.0	375.6	374.7	373.8	372.8	371.9
57.5°	343.0	341.3	339.5	338.1	337.2	336.4	335.5	334.6
60°	317.1	315.8	314.3	313.3	312.5	311.7	310.9	310.1
62.5°	291.9	290.5	289.3	288.3	287.5	286.8	286.0	285.2
65°	255.0	253.5	252.0	250.8	250.0	249.2	248.5	247.7
67.5°	217.1	215.7	214.2	213.3	213.1	212.9	212.7	212.5
70°	193.2	192.0	190.7	189.9	189.4	189.0	188.5	188.1
72.5°	169.2	168.3	167.3	166.6	166.1	165.7	165.2	164.7
75°	134.7	134.1	133.6	133.1	133.0	132.9	132.7	132.5
77.5°	102.0	101.8	101.7	101.4	100.9	100.6	100.1	99.8
80°	81.2	81.0	80.6	80.4	80.3	80.1	80.0	79.8
82.5°	62.6	62.4	62.2	62.1	62.0	61.8	61.6	61.4
85°	36.1	36.1	36.1	36.0	35.8	35.7	35.6	35.4
87.5°	15.9	16.0	16.1	16.1	16.2	16.4	16.2	16.2
90°	12.6	13.3	13.9	13.9	14.6	15.3	14.6	14.6
92.5°	137.0	103.1	82.0	68.0	59.8	56.1	53.7	53.7
95°	516.7	408.6	315.1	247.5	213.4	191.7	179.2	170.1
97.5°	763.3	723.2	655.0	582.2	532.2	490.2	469.2	454.8
100°	840.9	854.8	820.6	769.1	708.4	665.8	645.0	639.4
102.5°	837.0	906.2	916.1	894.6	857.4	826.5	804.5	800.0
105°	781.0	901.5	970.5	999.2	1000.6	995.0	985.3	981.1
107.5°	701.3	829.7	926.9	989.1	1023.6	1039.5	1046.4	1048.2
110°	653.4	773.9	875.0	951.7	1001.2	1030.6	1043.1	1049.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	618.2	724.9	820.4	897.1	953.2	988.7	1006.3	1016.5
115°	582.9	668.7	750.2	817.2	872.3	914.1	936.4	942.0
117.5°	565.6	636.6	700.7	757.5	804.5	839.6	862.2	866.6
120°	557.8	622.7	678.4	727.9	767.7	798.3	816.5	824.1
122.5°	551.1	613.7	664.5	707.8	741.5	767.7	783.0	790.7
125°	539.7	599.7	647.7	686.1	714.0	734.2	747.4	751.6
127.5°	525.8	583.0	631.0	667.4	695.4	713.5	724.6	728.8
130°	514.6	569.6	617.1	654.0	682.6	700.1	711.2	715.4
132.5°	502.8	554.6	600.9	637.8	665.8	685.5	696.2	700.3
135°	486.7	532.0	574.5	609.4	637.3	656.8	668.0	672.2
137.5°	472.1	510.4	546.3	577.7	603.8	623.0	632.2	637.3
140°	463.7	496.4	527.8	557.1	581.5	596.8	606.6	612.2
142.5°	455.8	484.7	511.7	537.0	558.7	572.8	581.5	585.4
145°	444.9	468.6	489.5	509.0	526.5	538.2	545.3	548.8
147.5°	435.8	454.6	471.4	486.7	499.5	509.7	515.0	516.2
150°	430.2	446.2	460.2	472.7	483.9	492.9	497.1	497.8
152.5°	424.1	437.8	450.7	461.0	470.5	477.9	480.4	481.1
155°	414.8	426.1	436.5	444.9	451.8	457.4	459.5	459.5
157.5°	404.9	414.3	423.1	429.8	435.1	439.3	440.5	440.5
160°	398.9	406.5	414.2	419.7	423.9	428.1	428.8	428.8
162.5°	392.7	399.2	405.3	410.3	413.3	417.5	418.2	417.7
165°	384.1	388.3	393.2	396.7	399.5	402.3	401.6	400.9
167.5°	375.9	379.2	383.1	385.1	386.6	388.3	388.3	387.6
170°	371.0	373.0	375.9	377.9	379.3	380.0	379.3	379.3
172.5°	366.5	368.0	369.7	371.2	372.0	372.7	372.0	371.0
175°	360.5	361.1	362.6	362.6	362.6	364.0	362.6	361.1
177.5°	356.6	357.1	357.1	357.7	357.1	357.7	356.6	355.4
180°	354.9	354.9	354.9	354.9	354.9	354.9	354.9	354.9

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