

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: P331978-940

Luminaire Tested: **S123DIP-S775D805U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331978-940  
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-S775D805U940-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5474.1 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

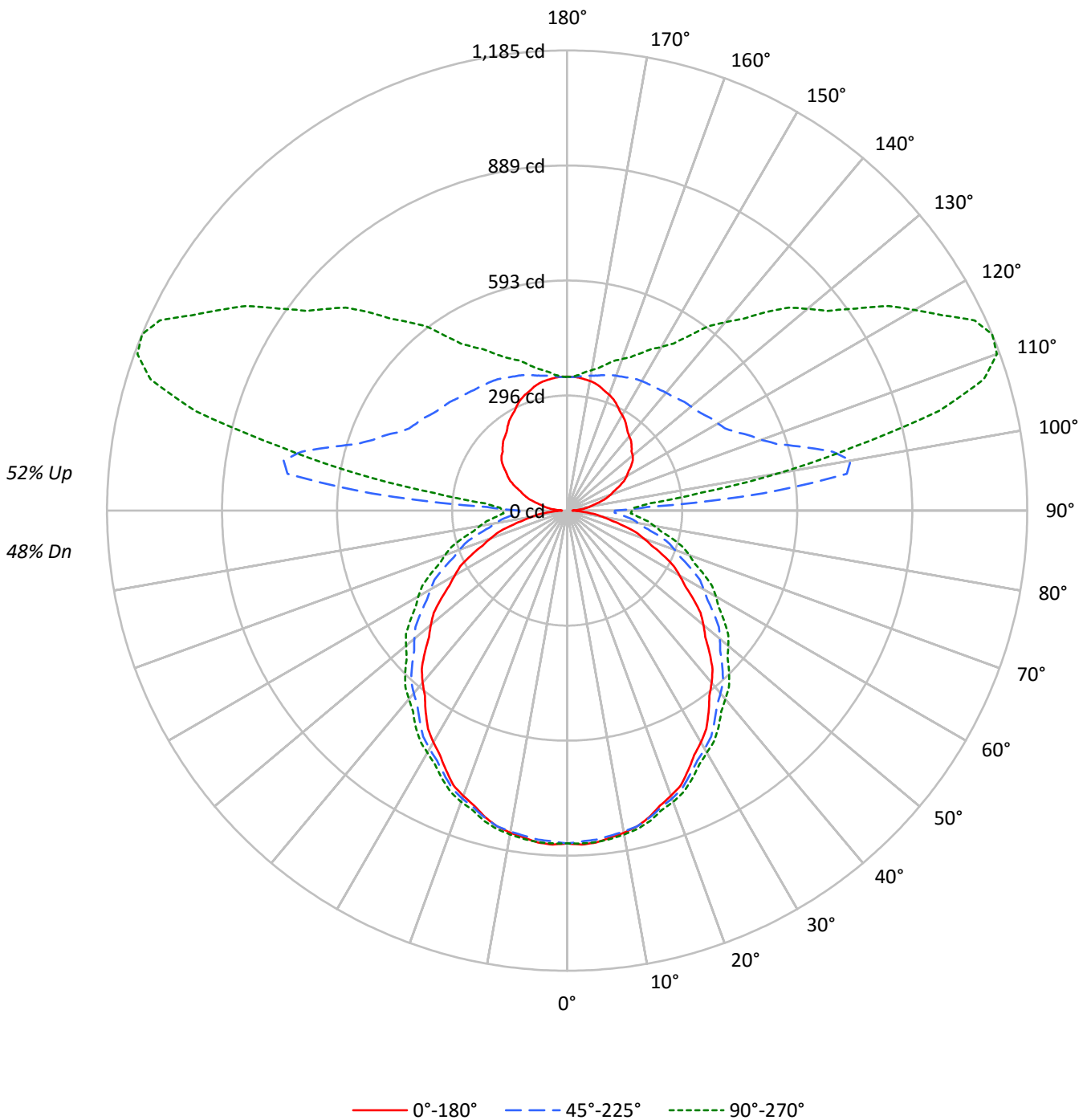
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	82	82	82	68	68	68	55	55	55	48
1	96	92	87	83	88	84	81	77	71	68	65	58	56	54	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	50	47	45	40	38	36	31
3	79	69	62	56	73	64	57	52	54	49	44	44	40	37	35	33	30	26
4	72	61	53	47	66	57	49	44	48	42	38	39	35	32	32	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	34	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

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

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.3	1.5
10°-20°	231.6	4.2
20°-30°	346.4	6.3
30°-40°	413.7	7.6
40°-50°	432.9	7.9
50°-60°	406.2	7.4
60°-70°	339.3	6.2
70°-80°	242.7	4.4
80°-90°	147.4	2.7
90°-100°	282.5	5.2
100°-110°	609.4	11.1
110°-120°	578.4	10.6
120°-130°	451.3	8.2
130°-140°	347.2	6.3
140°-150°	253.0	4.6
150°-160°	174.7	3.2
160°-170°	102.6	1.9
170°-180°	33.4	0.6
0°-30°	659.3	12.0
0°-40°	1073.0	19.6
0°-60°	1912.1	34.9
0°-90°	2641.5	48.3
90°-120°	1470.4	26.9
90°-150°	2521.9	46.1
90°-180°	2833.0	51.8
0°-180°	5474.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	14	66	123	156	167	10
95°	34	124	506	241	212	34
105°	88	150	630	1075	991	94
115°	148	195	478	1011	1158	146
125°	202	239	430	774	906	179
135°	235	279	406	624	722	181
145°	266	304	390	497	550	167
155°	302	326	377	429	447	139
165°	330	339	361	383	390	93
175°	344	344	346	351	351	33
180°	344	344	344	344	344	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	25.1	35.8	46.4	57.1	67.7	78.5	89.4	100.4	111.5	122.4	129.4
90°	13.6	25.1	36.6	49.0	60.5	72.2	84.9	97.6	110.3	123.0	129.3
92.5°	20.1	33.3	48.4	63.0	78.0	98.2	126.8	167.2	207.1	206.8	187.3
95°	34.0	44.1	59.9	79.9	106.1	142.4	211.8	325.8	450.4	505.9	434.2
97.5°	49.6	57.6	70.9	88.5	113.7	151.6	217.9	344.7	545.0	726.4	777.3
100°	60.0	67.3	78.8	95.2	118.6	153.9	212.2	324.9	517.9	741.5	884.8
102.5°	71.0	78.2	88.5	103.7	124.7	157.3	210.5	307.5	480.1	700.7	885.7
105°	88.4	95.4	104.6	117.9	136.2	164.7	211.2	292.0	432.7	630.5	836.4
107.5°	105.9	112.3	120.5	133.0	149.6	176.0	217.6	285.7	400.4	567.9	755.2
110°	118.5	124.4	131.6	143.0	158.5	184.1	223.8	285.1	386.8	532.4	704.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.8	136.0	142.5	153.3	168.2	192.7	229.8	286.9	377.1	506.8	659.1
115°	147.6	152.8	159.5	169.0	183.3	207.1	241.1	291.1	369.7	478.2	603.9
117.5°	165.1	169.9	174.9	182.8	197.6	219.3	252.5	297.5	364.9	458.3	567.6
120°	176.6	179.8	184.3	192.3	206.6	227.9	259.9	303.0	363.6	448.4	548.0
122.5°	187.3	189.8	193.9	202.0	215.2	237.3	268.3	308.3	364.0	440.8	531.3
125°	201.5	202.9	207.1	214.7	228.0	249.9	280.3	316.9	364.8	430.1	509.0
127.5°	213.0	215.0	219.9	227.5	241.9	263.1	291.7	324.3	366.9	422.0	488.7
130°	220.3	222.2	228.3	236.4	250.8	271.6	298.8	329.5	368.5	416.5	477.0
132.5°	225.2	227.7	234.5	244.5	259.1	279.0	304.8	334.0	368.9	412.2	465.8
135°	234.7	237.3	244.8	255.0	269.5	289.3	313.2	339.2	369.3	405.8	450.7
137.5°	243.7	246.5	253.9	264.8	279.2	297.2	319.2	343.1	369.2	399.8	437.5
140°	249.1	252.6	259.6	270.7	284.6	302.4	323.2	344.8	369.1	396.3	429.4
142.5°	255.8	258.6	265.9	275.8	289.6	305.9	325.7	346.2	368.3	392.2	421.5
145°	266.5	268.4	274.5	284.7	296.4	312.4	330.5	349.3	368.8	389.7	413.7
147.5°	276.5	277.8	283.9	292.9	304.3	318.1	334.7	351.5	368.8	387.1	406.6
150°	283.7	284.5	290.0	299.1	308.8	321.4	337.4	352.0	368.8	384.9	402.3
152.5°	291.0	291.1	296.7	304.7	313.3	325.3	339.1	353.2	367.1	382.0	397.8
155°	301.8	301.8	306.0	313.0	320.7	330.5	342.3	353.5	365.3	377.2	391.1
157.5°	310.5	311.0	314.4	320.6	327.1	334.7	344.1	354.2	362.9	372.8	383.6
160°	317.2	317.2	320.0	325.6	330.5	337.4	345.8	354.2	361.9	369.5	378.5
162.5°	322.3	322.3	324.5	329.0	333.2	339.1	346.3	353.6	359.6	366.1	373.5
165°	329.8	329.0	330.5	333.9	336.7	341.6	347.1	352.0	356.2	361.1	366.7
167.5°	335.5	334.7	335.4	338.0	339.9	343.0	347.1	351.0	352.9	356.1	360.2
170°	338.9	337.4	338.1	340.2	341.6	343.0	346.5	349.3	350.7	352.8	356.2
172.5°	341.1	340.2	340.4	341.9	342.7	343.6	346.5	348.7	349.0	350.0	352.3
175°	343.7	343.0	342.3	343.7	343.7	344.4	345.8	347.1	346.5	346.5	347.9
177.5°	344.9	344.4	343.8	344.4	344.4	344.4	344.9	346.1	344.9	344.4	344.9
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	136.5	143.7	151.0	155.8	157.7	160.0	162.1	164.1
90°	137.1	144.8	152.6	158.5	159.9	162.6	165.4	166.8
92.5°	172.0	166.7	168.2	169.0	169.6	169.4	172.1	172.7
95°	356.2	281.9	251.3	230.5	219.3	215.1	212.3	211.6
97.5°	723.7	605.4	521.7	442.4	393.0	363.7	347.0	343.0
100°	915.3	864.8	789.3	694.3	625.9	577.1	552.0	554.7
102.5°	975.6	979.7	938.0	879.2	826.5	788.3	767.6	753.7
105°	987.9	1063.5	1082.5	1068.3	1038.0	1013.4	993.0	991.3
107.5°	926.0	1044.7	1111.4	1139.9	1142.3	1135.1	1129.5	1124.9
110°	869.5	1003.2	1096.4	1148.7	1169.9	1177.1	1177.4	1177.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	812.8	949.1	1052.8	1119.0	1156.5	1175.6	1182.8	1184.9
115°	737.8	864.1	971.5	1050.8	1104.7	1137.1	1152.7	1157.9
117.5°	681.4	791.0	888.0	968.4	1024.5	1061.3	1083.0	1089.3
120°	651.1	750.0	838.4	912.0	968.5	1009.0	1027.2	1032.8
122.5°	626.4	716.2	798.3	866.7	917.1	953.8	973.6	980.3
125°	592.8	673.2	744.5	803.2	849.2	881.4	900.2	906.5
127.5°	562.8	634.6	699.1	752.6	793.8	821.4	838.6	844.5
130°	543.6	610.3	670.7	720.7	758.9	785.2	801.1	808.0
132.5°	525.6	587.1	643.5	691.3	727.4	753.9	768.2	773.6
135°	501.1	554.4	603.4	645.5	680.7	702.7	716.2	722.2
137.5°	478.6	522.5	564.7	601.4	631.1	653.4	664.9	669.2
140°	465.2	503.9	540.5	572.5	600.0	620.5	632.8	633.1
142.5°	452.1	485.4	517.2	545.2	568.7	587.1	598.2	598.5
145°	437.7	462.4	486.2	507.7	526.0	541.4	547.9	550.1
147.5°	426.0	444.8	463.2	478.2	492.2	502.8	508.9	510.2
150°	418.3	434.4	449.0	462.4	473.3	481.3	486.0	486.4
152.5°	412.1	426.0	438.9	450.0	458.3	465.5	468.1	468.1
155°	403.0	414.1	424.5	432.9	439.2	444.8	446.2	446.8
157.5°	393.2	402.5	410.6	417.1	422.6	426.8	427.9	427.8
160°	387.6	395.3	402.3	407.2	412.1	416.2	416.2	415.5
162.5°	380.9	387.4	393.9	398.2	401.4	405.0	405.0	404.4
165°	372.3	376.5	381.4	384.9	387.6	390.4	389.7	389.7
167.5°	364.7	367.9	370.8	373.3	374.5	376.5	375.8	375.8
170°	359.7	361.9	364.6	366.0	366.7	368.1	367.4	367.4
172.5°	355.3	356.8	359.0	359.9	360.0	361.4	360.2	359.6
175°	349.3	350.0	351.3	351.3	351.3	352.0	351.3	350.7
177.5°	345.5	346.1	346.6	346.6	346.1	346.6	345.5	345.5
180°	344.4	344.4	344.4	344.4	344.4	344.4	344.4	344.4

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