

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: P332152-940

Luminaire Tested: **S123DIW-S775D460U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332152-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D460U940-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4526.2 lumens
Efficiency: N/A
Efficacy: 120.1 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

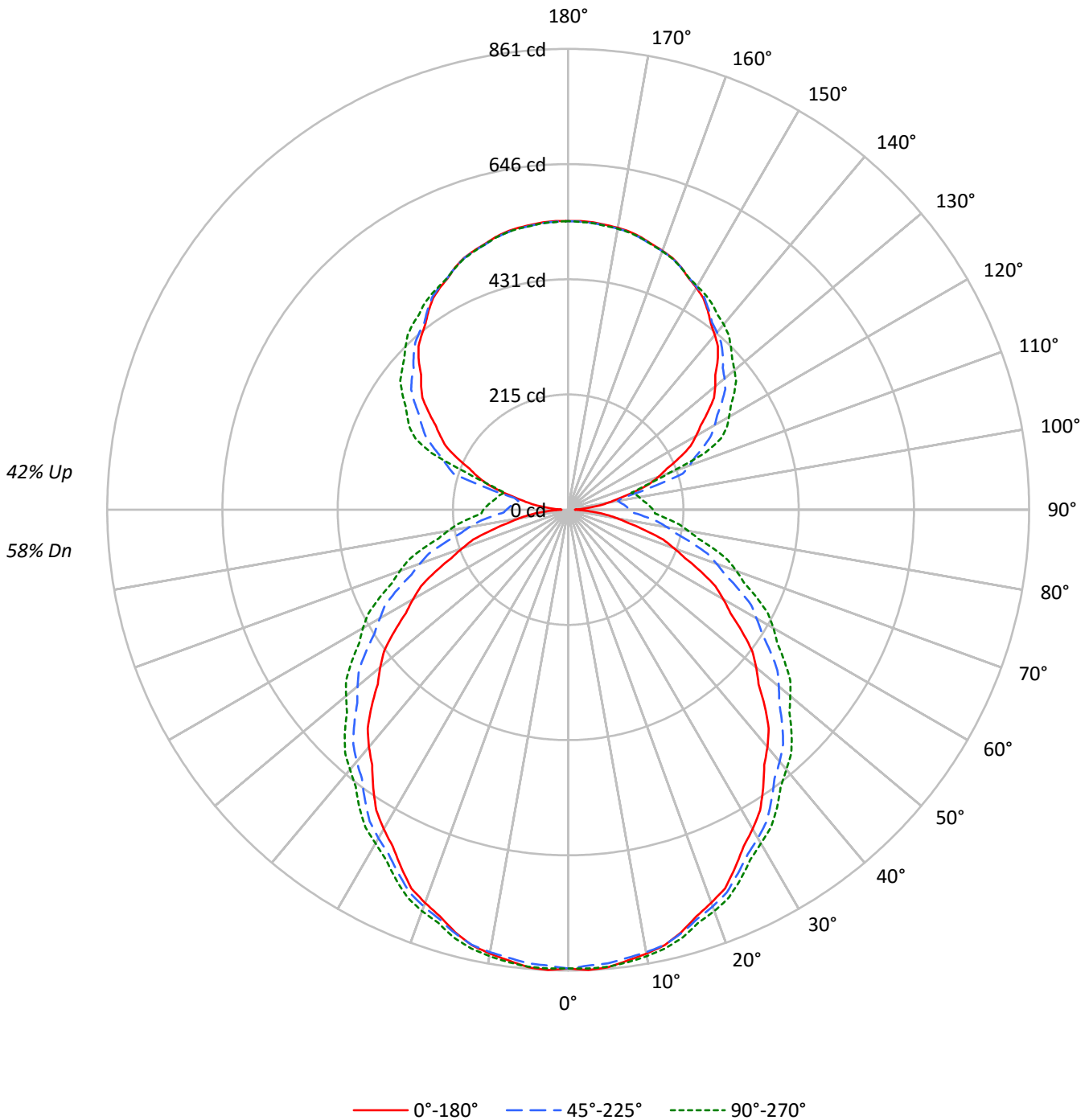
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332152-940

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	50	30	10	0													
RCR																																					
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58																			
1	98	93	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	47																			
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	45	42	38																			
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	36	32																			
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27																			
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23																			
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20																			
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18																			
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14																			
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13																			

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	1.8
10°-20°	231.6	5.1
20°-30°	346.4	7.7
30°-40°	413.7	9.1
40°-50°	432.9	9.6
50°-60°	406.2	9.0
60°-70°	339.3	7.5
70°-80°	242.7	5.4
80°-90°	146.3	3.2
90°-100°	110.4	2.4
100°-110°	160.2	3.5
110°-120°	269.0	5.9
120°-130°	311.3	6.9
130°-140°	316.8	7.0
140°-150°	288.0	6.4
150°-160°	230.4	5.1
160°-170°	148.7	3.3
170°-180°	51.2	1.1
0°-30°	659.3	14.6
0°-40°	1073.0	23.7
0°-60°	1912.1	42.2
0°-90°	2640.3	58.3
90°-120°	539.6	11.9
90°-150°	1455.7	32.2
90°-180°	1886.0	41.7
0°-180°	4526.2	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°	13	62	115	147	159	9
95°	35	56	105	135	146	38
105°	127	152	158	116	122	134
115°	229	244	280	305	315	226
125°	318	323	350	370	378	285
135°	395	397	408	425	430	304
145°	454	456	457	465	469	284
155°	500	499	499	501	499	230
165°	527	526	525	528	526	149
175°	539	537	538	540	537	51
180°	539	539	539	539	539	



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CATALOG NUMBER: S123DIW-S775D460U940-4F0-1E-UDD-D

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°	24.9	35.4	45.9	56.4	67.0	77.6	88.5	99.2	110.0	120.9	128.0
90°	12.6	23.6	34.7	45.7	56.8	68.1	79.9	91.7	103.3	115.1	122.5
92.5°	18.8	27.7	36.6	45.6	54.6	64.6	75.9	87.2	98.5	109.8	117.3
95°	34.7	39.1	43.6	48.1	52.4	60.3	71.4	82.6	93.7	104.9	111.9
97.5°	58.2	63.9	69.6	75.3	81.0	85.4	88.7	92.0	95.3	98.6	105.5
100°	76.2	84.5	92.9	101.4	109.8	111.8	107.5	103.2	98.8	94.4	101.2
102.5°	96.5	103.8	111.0	118.3	125.6	126.3	120.5	114.7	108.9	103.1	106.7
105°	126.9	132.8	138.8	144.7	150.7	154.1	155.1	156.0	156.9	157.7	147.8
107.5°	157.9	163.0	168.0	173.0	178.0	185.4	195.1	204.8	214.5	224.3	218.3
110°	178.7	183.2	187.5	192.0	196.4	203.3	212.6	221.9	231.1	240.4	242.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.2	202.9	206.6	210.4	214.0	220.3	229.3	238.3	247.2	256.2	261.4
115°	228.6	231.7	234.7	237.7	240.7	246.4	254.7	262.9	271.2	279.5	285.3
117.5°	257.8	260.0	262.3	264.4	266.6	271.4	278.8	286.2	293.7	301.1	306.7
120°	275.4	277.2	279.0	280.9	282.7	287.2	294.3	301.4	308.5	315.7	321.1
122.5°	293.9	295.2	296.3	297.6	298.7	302.7	309.6	316.5	323.3	330.2	335.3
125°	318.5	319.2	319.9	320.7	321.4	324.9	331.3	337.6	344.0	350.4	354.9
127.5°	343.1	343.7	344.2	344.6	345.2	348.1	353.6	359.0	364.4	369.8	374.2
130°	358.6	359.1	359.5	360.1	360.6	363.1	367.6	372.1	376.6	381.1	385.4
132.5°	372.6	373.2	373.9	374.6	375.2	377.4	380.9	384.6	388.2	391.8	395.9
135°	394.8	395.2	395.6	395.8	396.2	397.7	400.3	403.0	405.6	408.2	412.2
137.5°	413.9	414.5	414.9	415.4	416.0	417.0	418.5	419.9	421.4	422.8	426.6
140°	426.0	426.5	427.0	427.6	428.1	428.8	429.7	430.6	431.5	432.4	435.9
142.5°	437.8	438.2	438.6	439.0	439.3	439.7	440.1	440.5	440.9	441.3	444.3
145°	454.4	454.9	455.3	455.7	456.1	456.4	456.6	456.7	456.9	457.1	459.0
147.5°	469.1	469.6	469.9	470.4	470.7	471.1	471.3	471.4	471.6	471.8	472.4
150°	478.8	479.0	479.3	479.6	479.8	480.0	480.2	480.4	480.5	480.7	480.9
152.5°	487.4	487.5	487.7	487.8	487.9	488.0	488.1	488.2	488.3	488.5	488.7
155°	499.5	499.4	499.2	499.1	498.9	498.8	498.9	499.0	499.1	499.2	499.6
157.5°	509.1	509.0	509.0	509.0	509.0	508.9	508.8	508.7	508.6	508.5	509.1
160°	514.8	514.7	514.6	514.5	514.4	514.3	514.2	514.2	514.1	514.0	514.5
162.5°	520.2	520.0	519.8	519.6	519.3	519.2	519.1	519.0	518.9	518.8	519.4
165°	526.8	526.6	526.3	526.0	525.8	525.6	525.5	525.4	525.3	525.2	525.9
167.5°	532.0	531.6	531.3	530.9	530.6	530.4	530.4	530.4	530.4	530.4	531.1
170°	534.8	534.5	534.1	533.8	533.4	533.2	533.2	533.2	533.2	533.2	534.0
172.5°	536.7	536.4	535.9	535.5	535.0	534.8	534.9	535.0	535.1	535.1	535.8
175°	539.2	538.8	538.3	537.9	537.4	537.3	537.3	537.4	537.5	537.6	538.2
177.5°	539.8	539.5	539.1	538.8	538.4	538.3	538.4	538.4	538.5	538.6	539.1
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2



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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°	135.1	142.2	149.4	154.0	156.1	158.2	160.3	162.5
90°	129.9	137.3	144.7	149.6	151.9	154.1	156.3	158.6
92.5°	124.7	132.2	139.6	144.4	146.3	148.4	150.4	152.4
95°	119.0	126.0	133.0	137.7	139.7	141.8	143.8	146.0
97.5°	112.4	119.3	126.2	130.7	132.9	135.1	137.2	139.4
100°	107.9	114.7	121.4	125.8	128.0	130.1	132.3	134.5
102.5°	110.4	114.0	117.7	120.6	122.9	125.1	127.3	129.6
105°	137.9	128.0	118.0	114.0	116.1	118.2	120.1	122.2
107.5°	212.3	206.3	200.3	192.3	182.3	172.2	162.1	152.1
110°	245.3	247.8	250.3	245.9	234.9	223.8	212.8	201.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	266.7	272.0	277.2	279.5	278.7	277.8	276.9	276.1
115°	291.1	297.0	302.9	306.8	308.9	310.9	312.9	315.0
117.5°	312.5	318.1	323.7	327.3	329.0	330.7	332.4	334.1
120°	326.6	332.1	337.6	341.1	342.5	343.9	345.4	346.9
122.5°	340.4	345.5	350.6	353.9	355.4	357.0	358.5	360.0
125°	359.4	364.0	368.5	371.6	373.3	374.9	376.5	378.1
127.5°	378.5	383.0	387.4	390.1	391.4	392.6	393.9	395.1
130°	389.7	394.0	398.3	401.0	402.1	403.1	404.2	405.3
132.5°	400.0	404.2	408.3	411.0	412.1	413.3	414.5	415.6
135°	416.3	420.3	424.3	426.6	427.4	428.2	428.9	429.7
137.5°	430.3	434.0	437.7	440.0	440.9	441.8	442.6	443.4
140°	439.3	442.8	446.3	448.4	449.3	450.1	451.0	451.9
142.5°	447.4	450.5	453.5	455.5	456.3	457.0	457.8	458.6
145°	460.7	462.6	464.5	465.8	466.6	467.4	468.3	469.1
147.5°	473.1	473.8	474.5	475.0	475.3	475.6	476.0	476.4
150°	481.1	481.3	481.4	481.6	481.8	481.9	482.1	482.2
152.5°	489.1	489.4	489.7	489.7	489.4	489.1	488.7	488.4
155°	500.1	500.5	501.0	500.9	500.3	499.8	499.3	498.8
157.5°	509.6	510.1	510.7	510.6	509.9	509.3	508.5	507.8
160°	515.1	515.6	516.1	516.1	515.5	514.9	514.2	513.6
162.5°	520.0	520.7	521.2	521.3	520.7	520.1	519.6	519.1
165°	526.6	527.4	528.1	528.1	527.4	526.9	526.3	525.7
167.5°	531.8	532.4	533.2	533.2	532.4	531.8	531.1	530.4
170°	534.7	535.4	536.1	536.1	535.4	534.7	534.0	533.2
172.5°	536.5	537.3	538.0	538.0	537.2	536.4	535.7	534.8
175°	538.9	539.5	540.1	540.1	539.4	538.7	538.0	537.3
177.5°	539.8	540.3	540.9	540.8	540.1	539.4	538.7	538.0
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2

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