

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: P331996-940

Luminaire Tested: **S123DIP-S775D1195U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331996-940  
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-S775D1195U940-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6734.8 lumens  
Efficiency: N/A  
Efficacy: 118.4 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: Semi-Indirect

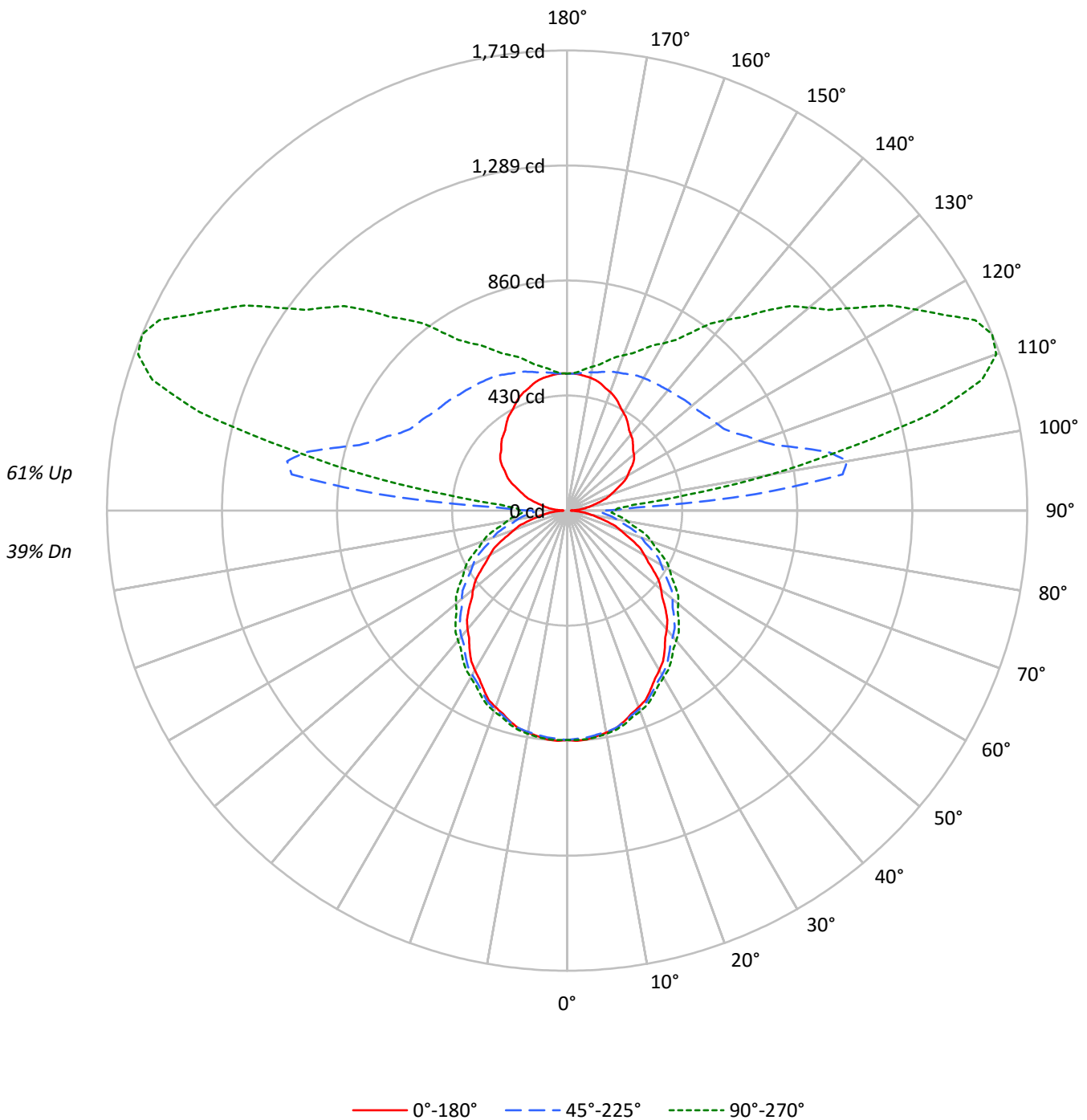
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	90	86	82	86	82	78	75	66	64	62	52	51	49	40	38	37	31
2	86	78	72	66	78	71	66	61	58	54	50	46	43	40	34	32	31	26
3	78	68	61	55	70	62	56	50	51	46	42	40	37	34	30	28	26	21
4	71	60	52	46	64	55	48	42	45	40	35	35	32	29	27	24	22	18
5	65	53	45	39	59	49	42	36	40	35	30	32	28	25	24	21	19	16
6	60	48	40	34	54	44	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	26	46	36	29	24	29	24	20	24	20	17	18	15	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	13	11	9

**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	1.2
10°-20°	231.6	3.4
20°-30°	346.4	5.1
30°-40°	413.7	6.1
40°-50°	432.9	6.4
50°-60°	406.2	6.0
60°-70°	339.3	5.0
70°-80°	242.7	3.6
80°-90°	148.7	2.2
90°-100°	375.6	5.6
100°-110°	873.2	13.0
110°-120°	837.9	12.4
120°-130°	658.3	9.8
130°-140°	510.4	7.6
140°-150°	374.9	5.6
150°-160°	259.6	3.9
160°-170°	152.5	2.3
170°-180°	49.6	0.7
0°-30°	659.3	9.8
0°-40°	1073.0	15.9
0°-60°	1912.1	28.4
0°-90°	2642.8	39.2
90°-120°	2086.8	31.0
90°-150°	3630.4	53.9
90°-180°	4092.0	60.8
0°-180°	6734.8	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	70	131	165	177	11
95°	46	162	707	300	251	46
105°	128	209	903	1552	1422	135
115°	217	282	687	1468	1682	215
125°	298	353	625	1126	1320	265
135°	348	414	598	915	1057	269
145°	396	452	579	735	812	248
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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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°	25.2	36.0	46.7	57.7	68.5	79.4	90.5	101.7	112.9	124.1	131.0
90°	14.2	26.5	38.7	52.0	64.2	76.7	90.3	104.1	117.7	131.4	137.4
92.5°	24.3	39.6	57.5	74.7	92.6	117.8	155.3	210.3	264.4	258.9	226.6
95°	45.5	56.7	76.2	101.9	136.9	186.5	284.7	449.2	629.3	706.8	597.2
97.5°	69.2	77.6	93.8	116.5	150.3	202.5	296.3	480.1	773.0	1037.9	1110.5
100°	85.1	92.7	106.6	127.8	159.3	207.8	289.8	452.7	734.8	1062.4	1272.5
102.5°	101.7	109.6	122.0	141.6	170.0	214.7	289.2	428.6	680.7	1004.0	1276.1
105°	127.7	135.7	147.0	164.3	189.0	228.1	292.9	408.6	613.3	903.0	1206.1
107.5°	154.3	161.7	171.8	188.3	211.0	247.2	304.8	401.9	568.3	813.2	1088.7
110°	173.4	180.3	189.2	204.3	225.7	260.7	315.7	402.7	549.8	762.1	1015.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	191.7	197.9	206.1	220.6	241.3	274.9	326.2	407.2	537.3	726.2	950.0
115°	217.0	223.7	232.4	245.2	265.4	298.3	345.2	415.8	529.0	686.6	870.8
117.5°	243.2	249.5	256.2	267.2	288.5	318.7	364.6	428.0	524.8	660.2	820.1
120°	260.6	264.8	271.0	282.4	303.2	333.0	377.1	437.8	524.5	647.4	793.0
122.5°	276.4	280.1	285.8	297.5	316.9	348.0	391.0	447.2	526.9	637.8	770.1
125°	298.1	300.1	306.4	317.7	337.4	368.5	410.7	462.3	530.5	624.6	739.8
127.5°	315.3	318.2	325.7	337.1	358.6	389.0	428.9	474.9	535.8	615.2	712.4
130°	326.0	329.0	338.0	350.3	371.8	401.8	440.1	483.7	539.6	609.0	696.9
132.5°	333.6	337.5	347.6	362.5	384.1	413.0	449.7	491.5	541.6	604.4	682.2
135°	347.9	351.9	363.0	378.4	399.9	428.9	463.3	500.8	544.6	597.6	662.5
137.5°	361.4	365.6	376.6	393.0	414.4	440.9	473.1	507.8	546.0	590.8	645.3
140°	369.8	375.0	385.3	401.9	422.6	448.8	479.5	511.2	547.1	587.0	634.7
142.5°	379.7	383.9	394.9	409.7	430.3	454.4	483.8	514.2	547.1	582.4	624.7
145°	395.7	398.6	407.7	423.0	440.4	464.1	491.1	519.1	548.0	579.2	613.9
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	604.1
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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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°	138.2	145.5	152.8	157.7	159.6	161.9	164.2	166.0
90°	145.5	153.6	161.7	168.4	169.3	172.5	175.6	176.6
92.5°	200.5	189.4	188.2	187.3	187.3	186.1	189.0	189.0
95°	478.3	364.5	316.0	283.0	265.4	258.2	253.0	250.9
97.5°	1027.8	849.0	721.5	601.7	527.4	482.8	456.9	450.0
100°	1314.7	1236.8	1121.7	978.6	876.0	802.5	764.1	767.2
102.5°	1406.9	1410.1	1345.2	1256.0	1176.6	1118.8	1087.1	1065.3
105°	1428.5	1537.9	1563.4	1540.3	1494.5	1457.0	1425.8	1422.4
107.5°	1339.8	1513.6	1610.0	1650.6	1653.1	1641.7	1632.4	1624.7
110°	1257.8	1453.8	1589.8	1665.8	1696.5	1706.5	1706.0	1705.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1176.0	1375.9	1527.5	1624.3	1679.1	1706.6	1716.4	1718.6
115°	1067.5	1252.8	1410.1	1526.3	1605.6	1652.9	1675.3	1682.1
117.5°	986.9	1147.5	1289.1	1407.0	1489.7	1543.5	1574.9	1583.6
120°	943.9	1088.5	1217.6	1325.3	1408.6	1468.1	1494.4	1502.1
122.5°	909.2	1040.4	1160.2	1260.4	1334.5	1388.2	1417.0	1426.4
125°	862.2	979.5	1083.3	1169.1	1236.9	1283.9	1311.3	1320.0
127.5°	820.5	925.3	1019.1	1097.3	1157.8	1198.2	1223.0	1231.0
130°	794.1	891.3	979.1	1052.1	1108.3	1146.8	1169.8	1179.4
132.5°	769.3	858.8	940.8	1010.5	1063.5	1102.2	1122.8	1130.1
135°	735.6	812.9	884.0	945.4	997.2	1029.3	1049.0	1057.3
137.5°	704.7	768.3	829.6	883.0	926.7	959.2	976.0	981.8
140°	686.5	742.4	795.3	841.9	882.3	912.4	930.0	930.0
142.5°	668.8	716.9	762.8	803.4	838.0	864.8	880.7	880.7
145°	648.8	684.7	719.4	750.7	777.5	800.0	809.1	812.1
147.5°	632.6	660.2	687.4	709.4	729.9	745.3	753.9	755.5
150°	621.6	645.4	667.2	687.1	703.0	714.9	721.5	721.9
152.5°	612.5	633.0	652.3	668.7	681.0	691.6	695.4	695.5
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

(END OF REPORT)