

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: P331987-935

Luminaire Tested: **S123DIP-S775D1025U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331987-935  
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-S775D1025U935-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5978.6 lumens  
Efficiency: N/A  
Efficacy: 115.0 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

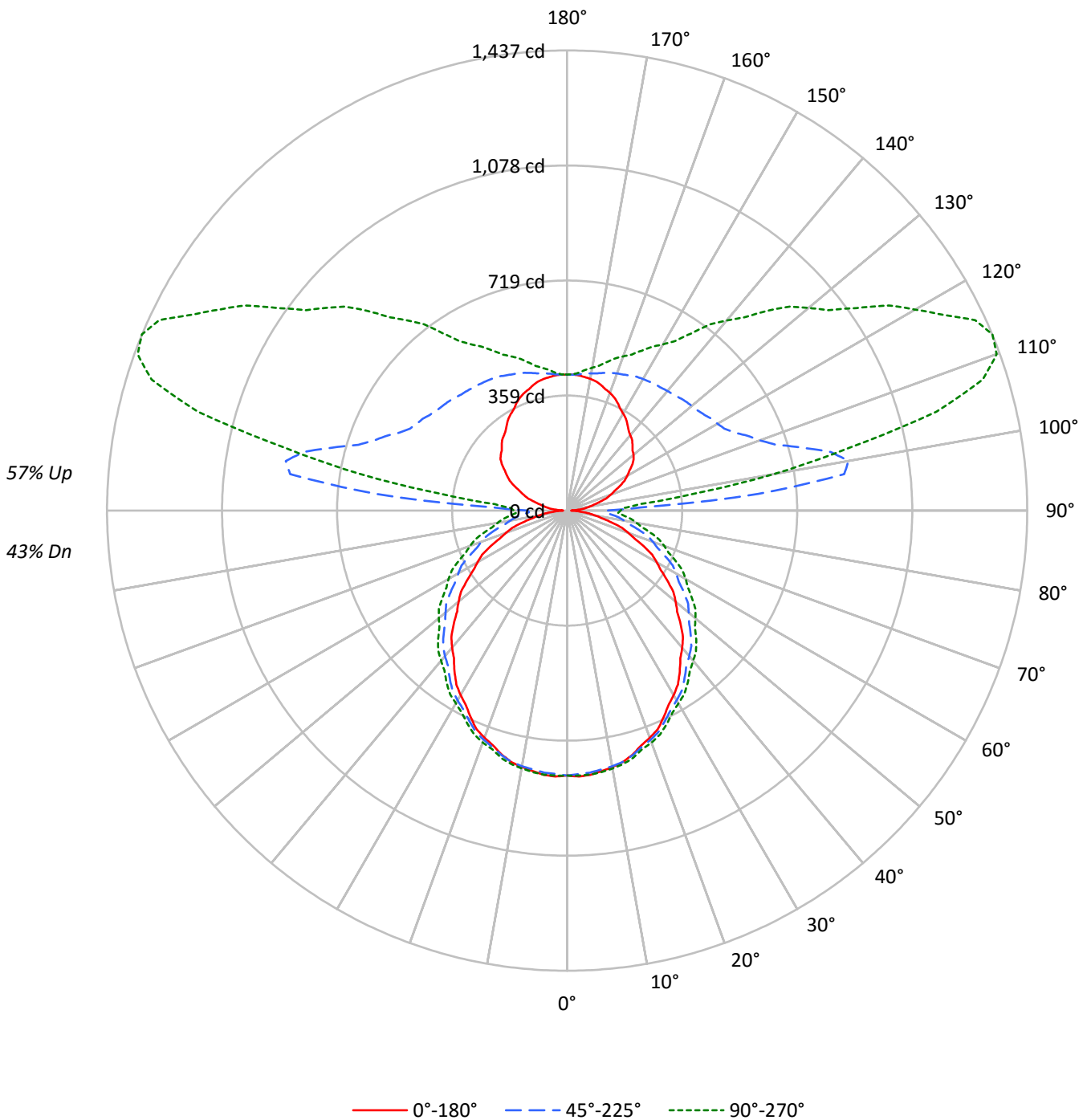
Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43
1	95	91	86	83	87	83	79	76	68	65	63	55	53	51	42	41	40	34
2	86	79	72	67	78	72	66	62	59	55	52	47	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	32	30	28	23
4	72	61	52	46	65	55	48	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	20	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	20	17	19	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	10
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	11	9

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

	0°	45°	90°
0°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	1.3
10°-20°	223.7	3.7
20°-30°	334.5	5.6
30°-40°	399.5	6.7
40°-50°	418.0	7.0
50°-60°	392.2	6.6
60°-70°	327.6	5.5
70°-80°	234.4	3.9
80°-90°	143.0	2.4
90°-100°	324.0	5.4
100°-110°	733.5	12.3
110°-120°	701.2	11.7
120°-130°	549.5	9.2
130°-140°	424.9	7.1
140°-150°	311.3	5.2
150°-160°	215.3	3.6
160°-170°	126.5	2.1
170°-180°	41.2	0.7
0°-30°	636.6	10.6
0°-40°	1036.1	17.3
0°-60°	1846.2	30.9
0°-90°	2551.2	42.7
90°-120°	1758.6	29.4
90°-150°	3044.4	50.9
90°-180°	3427.0	57.3
0°-180°	5978.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	13	66	123	155	166	10
95°	39	141	599	265	226	39
105°	107	177	759	1300	1194	113
115°	181	236	576	1228	1406	179
125°	248	293	522	941	1103	220
135°	289	344	497	762	882	223
145°	328	375	480	611	675	206
155°	372	401	465	529	551	171
165°	406	418	445	472	480	115
175°	424	424	427	433	432	40
180°	425	425	425	425	425	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.4	34.6	44.9	55.4	65.8	76.2	87.0	97.7	108.4	119.2	125.8
90°	13.4	25.0	36.5	48.9	60.4	72.2	85.0	97.8	110.6	123.4	129.3
92.5°	21.7	35.6	51.7	67.3	83.3	105.6	138.1	185.1	231.4	228.3	202.4
95°	39.2	49.5	66.8	89.2	119.4	161.7	244.6	382.5	533.2	598.9	508.9
97.5°	58.7	66.6	81.0	100.8	129.8	174.4	253.5	407.3	651.6	872.5	933.8
100°	71.7	79.0	91.4	109.9	136.9	178.2	247.6	384.0	619.2	892.3	1067.5
102.5°	85.4	92.7	103.8	121.0	145.3	183.5	246.5	363.5	573.9	843.3	1069.8
105°	106.9	114.3	124.2	139.4	160.5	193.9	248.9	346.0	517.1	758.6	1010.9
107.5°	128.9	135.5	144.6	158.9	178.2	209.1	258.0	339.8	478.9	683.2	912.5
110°	144.6	150.8	158.7	171.8	190.0	219.9	266.6	339.9	463.0	640.4	851.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.8	165.3	172.5	185.0	202.6	231.3	274.9	343.1	452.2	609.9	796.3
115°	180.7	186.5	194.1	205.1	222.1	250.1	290.0	349.7	444.5	576.4	729.8
117.5°	202.3	207.8	213.5	222.9	240.7	266.4	305.5	359.0	440.1	553.5	686.8
120°	216.7	220.3	225.6	235.2	252.5	277.8	315.4	366.7	439.5	542.3	663.8
122.5°	229.8	232.9	237.7	247.5	263.7	290.0	326.5	374.0	441.0	533.9	644.3
125°	247.6	249.3	254.5	264.0	280.3	306.4	342.3	385.9	443.3	522.2	618.4
127.5°	261.9	264.3	270.4	279.9	297.7	323.2	357.1	395.9	447.1	513.7	594.8
130°	270.9	273.2	280.8	290.8	308.8	333.8	366.2	402.9	449.9	508.0	581.4
132.5°	277.0	280.3	288.6	300.9	318.9	343.0	373.9	409.1	451.2	503.7	568.7
135°	288.9	292.1	301.4	314.0	331.9	356.1	385.0	416.4	453.0	497.2	551.6
137.5°	300.1	303.5	312.6	326.1	343.9	365.9	392.8	421.9	453.7	491.0	536.7
140°	306.9	311.2	319.8	333.5	350.7	372.5	398.0	424.4	454.2	487.5	527.4
142.5°	315.1	318.6	327.7	339.9	356.9	377.0	401.4	426.6	453.8	483.2	518.8
145°	328.4	330.7	338.3	350.9	365.3	385.0	407.3	430.6	454.6	480.4	509.5
147.5°	340.9	342.4	350.0	361.1	375.2	392.1	412.5	433.3	454.6	477.2	501.2
150°	349.8	350.7	357.5	368.7	380.7	396.2	415.9	434.0	454.6	474.4	495.8
152.5°	358.7	358.9	365.8	375.6	386.2	401.1	418.0	435.4	452.5	471.0	490.4
155°	372.1	372.1	377.3	385.9	395.4	407.3	422.0	435.8	450.3	464.9	482.2
157.5°	382.8	383.5	387.6	395.2	403.2	412.5	424.2	436.6	447.5	459.6	472.9
160°	391.1	391.1	394.5	401.3	407.3	415.9	426.3	436.6	446.1	455.5	466.7
162.5°	397.3	397.3	400.0	405.4	410.8	418.0	427.0	435.9	443.3	451.3	460.5
165°	406.5	405.6	407.3	411.6	415.1	421.1	428.0	434.0	439.2	445.2	452.0
167.5°	413.5	412.5	413.4	416.6	419.0	422.8	427.8	432.7	435.1	439.0	444.0
170°	417.7	415.9	416.8	419.4	421.1	422.8	427.1	430.6	432.3	434.9	439.2
172.5°	420.4	419.4	419.6	421.5	422.5	423.5	427.1	429.9	430.2	431.4	434.4
175°	423.7	422.8	422.0	423.7	423.7	424.6	426.3	428.0	427.1	427.1	428.9
177.5°	425.2	424.6	423.9	424.6	424.6	424.6	425.2	426.6	425.2	424.6	425.2
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	132.8	139.7	146.7	151.5	153.3	155.5	157.6	159.5
90°	137.0	144.6	152.3	158.4	159.6	162.5	165.3	166.4
92.5°	181.8	173.5	173.4	173.2	173.5	172.7	175.5	175.7
95°	411.0	317.6	278.3	251.4	237.1	231.4	227.3	225.9
97.5°	866.0	718.4	613.5	514.7	453.3	416.6	395.5	390.0
100°	1103.3	1039.5	944.8	826.6	741.8	681.1	649.6	652.5
102.5°	1179.1	1182.5	1129.5	1056.0	990.5	942.8	916.8	899.1
105°	1196.1	1287.6	1309.6	1291.0	1253.2	1222.4	1196.7	1194.2
107.5°	1121.5	1266.5	1347.2	1381.3	1383.8	1374.6	1367.0	1360.9
110°	1053.0	1216.3	1329.9	1393.4	1419.1	1427.5	1427.5	1427.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	984.5	1151.1	1277.5	1358.2	1403.9	1427.0	1435.4	1437.4
115°	893.6	1048.0	1179.1	1276.0	1342.0	1381.5	1400.2	1406.2
117.5°	825.9	959.8	1078.0	1176.1	1244.9	1289.8	1316.1	1323.5
120°	789.6	910.2	1018.0	1107.8	1177.1	1226.7	1248.6	1255.3
122.5°	760.3	869.7	969.7	1053.3	1115.0	1159.8	1183.9	1191.8
125°	720.5	818.4	905.1	976.6	1033.1	1072.3	1095.2	1102.6
127.5°	685.1	772.6	850.9	916.2	966.6	1000.2	1021.0	1027.9
130°	662.5	743.7	817.2	878.0	924.8	957.0	976.2	984.3
132.5°	641.4	716.3	784.7	842.9	887.1	919.4	936.7	942.9
135°	612.8	677.3	736.8	788.2	831.3	858.1	874.5	881.5
137.5°	586.4	639.6	690.9	735.5	771.8	798.9	813.0	817.9
140°	570.8	617.7	661.9	700.9	734.5	759.6	774.4	774.5
142.5°	555.6	595.9	634.4	668.4	697.2	719.5	732.9	733.1
145°	538.6	568.6	597.7	623.8	646.1	665.0	672.6	675.2
147.5°	524.9	547.9	570.5	588.8	605.9	618.8	626.0	627.5
150°	515.7	535.5	553.5	570.0	583.3	593.1	598.7	599.1
152.5°	508.1	525.1	541.1	554.7	564.9	573.8	577.0	577.0
155°	496.7	510.5	523.4	533.7	541.5	548.3	550.0	550.9
157.5°	484.7	496.2	506.2	514.3	521.0	526.2	527.5	527.4
160°	477.9	487.3	495.8	501.9	507.9	513.1	513.1	512.2
162.5°	469.6	477.7	485.6	490.9	494.9	499.3	499.3	498.4
165°	458.9	464.1	470.1	474.4	477.9	481.3	480.4	480.4
167.5°	449.6	453.6	457.0	460.1	461.7	464.1	463.2	463.2
170°	443.5	446.1	449.4	451.2	452.0	453.7	452.9	452.9
172.5°	438.0	439.9	442.6	443.7	443.8	445.6	444.0	443.3
175°	430.6	431.4	433.2	433.2	433.2	434.0	433.2	432.3
177.5°	425.9	426.6	427.3	427.3	426.6	427.3	425.9	425.9
180°	424.6	424.6	424.6	424.6	424.6	424.6	424.6	424.6

(END OF REPORT)