

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: P332311-840

Luminaire Tested: **S123RDIP-S775D585U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332311-840  
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: S123RDIP-S775D585U840-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5088.3 lumens  
Efficiency: N/A  
Efficacy: 126.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

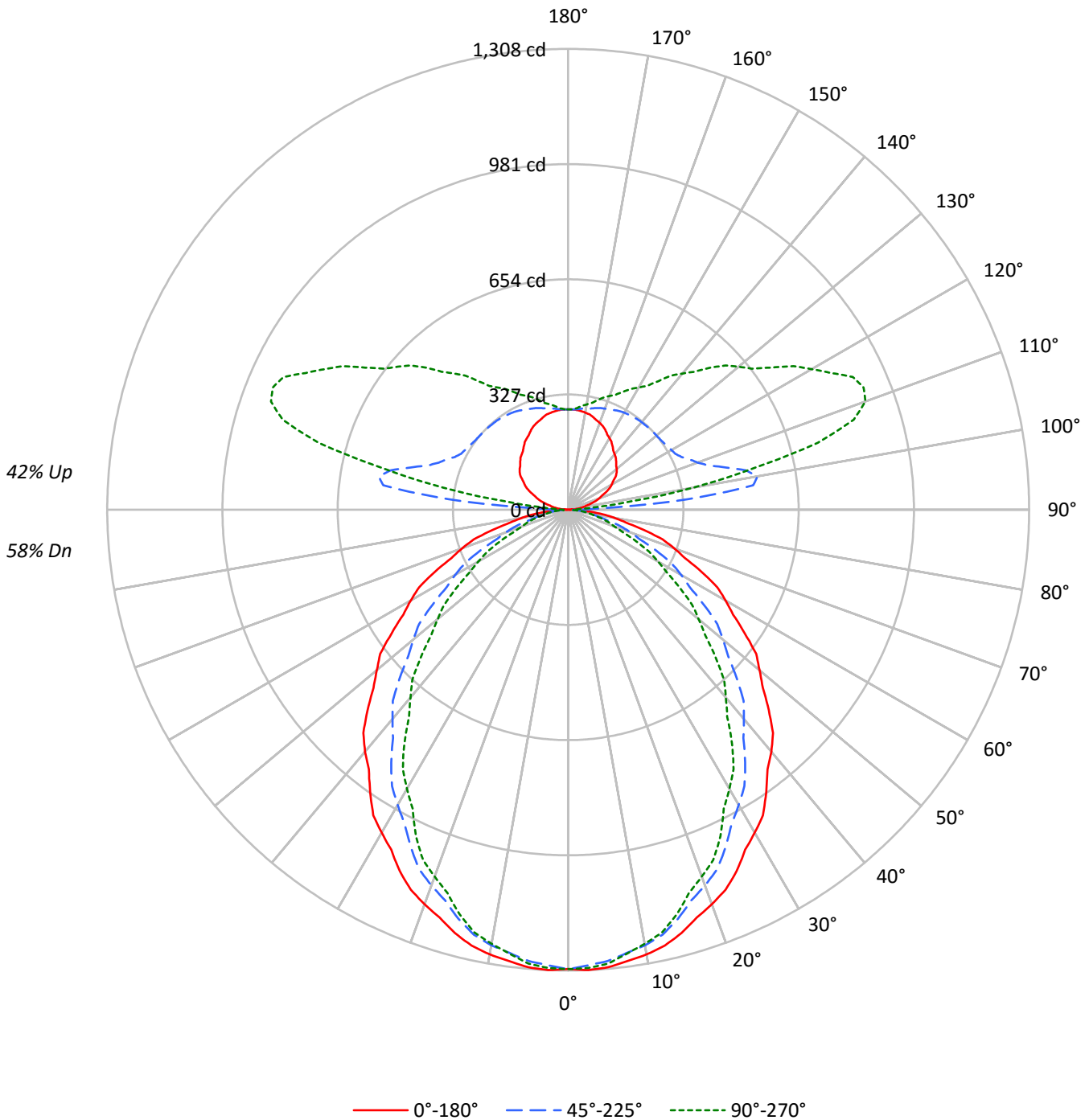
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58
1	100	96	92	88	93	89	86	83	78	75	73	67	65	63	57	55	54	50
2	91	84	78	73	85	79	73	69	68	64	61	59	56	53	50	48	46	42
3	84	74	67	61	78	69	63	58	61	56	52	52	49	46	45	42	40	36
4	77	66	58	52	71	62	55	49	54	49	44	47	43	39	40	37	35	31
5	70	59	51	45	66	55	48	43	49	43	39	42	38	34	37	33	30	27
6	65	53	45	39	61	50	43	37	44	38	34	38	34	30	33	30	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	27	24	22
8	56	44	36	31	52	41	34	29	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	26	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	21	18	16

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

	0°	45°	90°
0°	14034	14034	14034
5°	14088	13894	13973
10°	14008	13719	13672
15°	13857	13397	13256
20°	13651	12997	12693
25°	13438	12545	12144
30°	13155	12026	11368
35°	12867	11506	10657
40°	12600	10891	9777
45°	12250	10286	8983
50°	11863	9597	8092
55°	11470	8811	7263
60°	11108	7967	6351
65°	10639	7055	5440
70°	10049	5923	4393
75°	9191	4662	4134
80°	8195	4135	3800
85°	6916	3656	3396



TEST NUMBER: P332311-840

CATALOG NUMBER: S123RDIP-S775D585U840-4F0-1E-UDD-F4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.4	2.4
10°-20°	340.6	6.7
20°-30°	490.5	9.6
30°-40°	552.5	10.9
40°-50°	528.6	10.4
50°-60°	432.9	8.5
60°-70°	292.0	5.7
70°-80°	146.9	2.9
80°-90°	41.1	0.8
90°-100°	158.3	3.1
100°-110°	448.4	8.8
110°-120°	441.1	8.7
120°-130°	351.8	6.9
130°-140°	277.4	5.5
140°-150°	207.0	4.1
150°-160°	144.3	2.8
160°-170°	84.8	1.7
170°-180°	27.6	0.5
0°-30°	953.6	18.7
0°-40°	1506.1	29.6
0°-60°	2467.5	48.5
0°-90°	2947.6	57.9
90°-120°	1047.8	20.6
90°-150°	1884.1	37.0
90°-180°	2141.0	42.1
0°-180°	5088.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1304	1298	1286	1295	1293	124
15°	1244	1231	1202	1197	1190	350
25°	1132	1104	1056	1035	1022	520
35°	979	940	876	832	811	613
45°	805	755	676	617	590	621
55°	611	557	470	410	387	548
65°	418	358	277	227	214	413
75°	221	170	112	102	99	236
85°	56	34	30	28	28	63
90°	1	7	14	16	17	4
95°	20	64	342	100	67	21
105°	67	99	463	810	733	71
115°	118	147	354	777	891	117
125°	164	194	331	599	703	146
135°	192	230	326	493	570	149
145°	219	251	322	405	445	138
155°	249	269	312	354	369	115
165°	272	280	298	316	322	77
175°	284	284	286	290	290	27
180°	285	285	285	285	285	



TEST NUMBER: P332311-840

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1308.0	1307.3	1306.5	1305.8	1305.0	1303.5	1301.2	1299.0	1296.8	1294.4	1296.6
5°	1303.8	1302.6	1301.4	1300.3	1299.1	1297.1	1294.2	1291.4	1288.6	1285.9	1287.9
7.5°	1291.7	1290.5	1289.2	1287.9	1286.7	1284.1	1280.5	1276.9	1273.2	1269.5	1270.7
10°	1281.6	1279.9	1278.3	1276.7	1275.0	1272.0	1267.8	1263.6	1259.4	1255.2	1255.4
12.5°	1267.2	1265.4	1263.5	1261.7	1259.9	1256.4	1251.2	1246.1	1240.8	1235.7	1235.6
15°	1243.5	1240.9	1238.3	1235.8	1233.1	1228.6	1222.0	1215.5	1208.8	1202.2	1201.1
17.5°	1213.7	1210.7	1207.7	1204.7	1201.6	1196.0	1187.6	1179.2	1170.8	1162.6	1160.0
20°	1191.7	1187.9	1184.2	1180.4	1176.7	1170.3	1161.3	1152.5	1143.6	1134.6	1131.6
22.5°	1167.2	1162.9	1158.5	1154.2	1149.8	1143.0	1133.5	1124.0	1114.5	1105.0	1101.2
25°	1131.5	1125.6	1119.6	1113.8	1107.9	1099.5	1088.7	1077.9	1067.1	1056.3	1051.4
27.5°	1088.0	1081.6	1075.1	1068.6	1062.2	1052.9	1040.9	1028.9	1016.7	1004.7	997.8
30°	1058.4	1051.4	1044.4	1037.3	1030.3	1020.2	1007.0	993.8	980.7	967.6	959.6
32.5°	1028.9	1020.9	1012.9	1004.9	996.9	985.9	972.0	958.2	944.2	930.3	921.6
35°	979.2	970.7	962.2	953.8	945.3	933.8	919.3	904.6	890.1	875.6	865.5
37.5°	928.9	919.4	910.0	900.6	891.2	878.8	863.2	847.7	832.1	816.6	805.1
40°	896.7	886.4	876.0	865.7	855.4	841.8	825.2	808.5	791.7	775.1	762.9
42.5°	860.3	850.0	839.6	829.3	819.0	805.2	787.9	770.6	753.5	736.2	722.9
45°	804.7	794.2	783.6	773.0	762.3	748.1	729.9	711.9	693.8	675.7	662.3
47.5°	749.1	737.5	725.9	714.3	702.7	687.8	669.7	651.6	633.5	615.4	600.9
50°	708.4	697.4	686.4	675.3	664.3	649.2	630.3	611.2	592.2	573.1	558.6
52.5°	672.1	660.1	648.1	636.1	624.2	608.7	589.9	571.1	552.2	533.3	518.3
55°	611.2	599.7	588.1	576.6	565.1	549.4	529.4	509.5	489.5	469.5	455.9
57.5°	554.9	542.4	529.9	517.3	504.7	488.5	468.4	448.3	428.2	408.2	395.3
60°	516.0	503.1	490.2	477.3	464.3	448.1	428.6	409.1	389.6	370.1	357.4
62.5°	477.1	464.1	451.2	438.3	425.5	409.2	389.7	370.2	350.7	331.1	319.2
65°	417.7	404.8	391.8	378.9	366.0	350.3	332.0	313.7	295.4	277.0	265.5
67.5°	358.3	345.2	332.1	319.0	306.0	290.6	273.1	255.5	237.9	220.4	211.8
70°	319.3	306.7	294.0	281.2	268.6	254.0	237.5	221.2	204.7	188.2	180.0
72.5°	280.4	267.9	255.4	242.9	230.5	216.7	201.8	186.8	171.9	156.9	150.2
75°	221.0	209.7	198.4	187.1	175.9	163.8	150.9	137.9	125.0	112.1	109.8
77.5°	166.8	156.6	146.4	136.2	126.0	116.8	108.5	100.2	91.9	83.5	82.3
80°	132.2	122.5	112.9	103.3	93.6	86.3	81.4	76.4	71.6	66.7	65.9
82.5°	99.2	90.9	82.5	74.2	65.9	60.6	58.3	55.9	53.7	51.4	50.7
85°	56.0	50.9	45.7	40.5	35.3	32.4	31.7	31.0	30.3	29.6	29.2
87.5°	20.5	18.7	16.9	15.1	13.3	12.5	12.8	13.2	13.5	13.8	13.5
90°	1.1	2.3	3.4	5.2	6.4	7.5	9.2	10.9	12.6	14.4	13.8
92.5°	7.2	10.6	15.5	19.9	24.7	33.3	48.4	73.1	97.5	88.6	66.9
95°	19.6	21.3	27.7	37.5	52.4	74.8	123.8	209.6	304.2	341.5	277.0
97.5°	33.4	34.0	39.0	47.5	62.2	86.5	133.3	230.0	387.5	529.4	566.3
100°	42.6	43.2	47.3	55.3	69.1	91.6	131.9	217.1	368.6	545.4	658.9
102.5°	52.3	53.3	57.0	64.5	77.0	97.6	133.7	206.1	341.0	515.5	663.6
105°	66.9	68.6	72.0	78.9	89.9	107.8	138.9	198.1	307.0	463.1	628.4
107.5°	82.2	84.0	87.4	94.1	104.4	121.0	148.2	197.5	285.4	416.8	566.9
110°	93.3	95.0	98.0	104.2	114.0	130.2	156.1	199.9	277.0	390.5	528.2



TEST NUMBER: P332311-840

CATALOG NUMBER: S123RDIP-S775D585U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.4	105.2	108.1	114.4	124.2	139.9	163.9	204.5	272.5	373.0	494.5
115°	118.1	120.4	123.8	129.6	139.4	154.9	176.8	212.0	270.7	354.3	453.9
117.5°	132.7	135.3	138.3	143.5	154.5	168.8	190.6	221.9	271.8	343.2	429.4
120°	142.9	144.6	147.4	153.2	164.2	178.5	199.2	229.2	273.6	338.1	416.5
122.5°	151.6	153.3	156.2	162.4	172.9	188.2	208.5	236.2	276.8	334.9	405.9
125°	164.2	165.3	168.7	175.1	186.0	201.6	221.8	247.1	281.7	330.6	392.2
127.5°	173.7	175.4	179.8	186.1	198.2	213.8	233.3	256.1	287.2	328.5	380.3
130°	179.8	181.5	186.6	193.5	205.6	221.2	240.1	262.1	290.8	327.2	373.9
132.5°	184.3	186.5	192.2	200.5	212.6	227.6	246.2	267.6	293.7	326.7	367.8
135°	192.4	194.7	201.1	209.6	221.8	237.3	255.2	274.8	297.8	326.0	360.0
137.5°	200.0	202.4	208.6	217.8	229.8	244.2	261.4	280.0	300.5	324.8	353.3
140°	205.1	207.9	213.7	222.9	234.4	248.8	265.5	282.9	302.4	324.3	349.0
142.5°	210.6	213.0	219.2	227.5	239.0	252.6	268.7	285.6	303.8	323.4	345.4
145°	219.4	221.2	226.4	235.0	244.8	258.0	273.1	288.6	304.7	321.9	340.4
147.5°	228.4	229.4	234.6	242.1	251.5	262.8	276.5	290.4	304.7	319.8	335.6
150°	234.4	235.0	239.6	247.1	255.2	265.5	278.8	290.8	304.7	317.9	332.3
152.5°	240.4	240.5	245.2	251.8	258.8	268.7	280.1	291.9	303.4	315.7	328.7
155°	249.4	249.4	252.9	258.6	265.0	273.1	282.9	292.1	301.8	311.6	323.2
157.5°	256.5	257.0	259.7	264.9	270.2	276.5	284.3	292.7	299.8	308.0	316.9
160°	262.1	262.1	264.4	269.0	273.1	278.8	285.7	292.7	298.9	305.3	312.8
162.5°	266.2	266.2	268.1	271.8	275.3	280.1	286.2	292.2	297.1	302.6	308.6
165°	272.5	271.9	273.1	275.9	278.2	282.3	286.8	290.8	294.4	298.4	303.0
167.5°	277.2	276.5	277.0	279.2	280.8	283.4	286.7	289.9	291.5	294.2	297.6
170°	279.9	278.8	279.3	281.0	282.3	283.4	286.3	288.6	289.7	291.4	294.4
172.5°	281.8	281.0	281.2	282.5	283.2	283.9	286.3	288.1	288.3	289.1	291.1
175°	284.0	283.4	282.9	284.0	284.0	284.6	285.7	286.8	286.3	286.3	287.4
177.5°	285.0	284.6	284.1	284.6	284.6	284.6	285.0	285.9	285.0	284.6	285.0
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6



TEST NUMBER: P332311-840

CATALOG NUMBER: S123RDIP-S775D585U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8	1303.8
2.5°	1298.6	1300.7	1302.7	1303.6	1303.2	1302.8	1302.4	1302.1
5°	1290.0	1292.1	1294.2	1295.1	1294.6	1294.1	1293.6	1293.2
7.5°	1271.9	1273.0	1274.2	1274.4	1273.6	1272.8	1272.0	1271.2
10°	1255.7	1255.9	1256.1	1255.7	1254.5	1253.2	1252.1	1250.9
12.5°	1235.4	1235.3	1235.2	1234.4	1233.0	1231.6	1230.3	1228.9
15°	1199.9	1198.7	1197.6	1196.2	1194.6	1192.9	1191.2	1189.6
17.5°	1157.5	1155.1	1152.6	1150.1	1147.6	1145.2	1142.8	1140.3
20°	1128.5	1125.4	1122.4	1119.4	1116.6	1113.8	1111.0	1108.1
22.5°	1097.4	1093.6	1089.7	1086.5	1083.9	1081.3	1078.6	1076.0
25°	1046.5	1041.6	1036.6	1032.9	1030.3	1027.6	1025.1	1022.5
27.5°	991.0	984.2	977.3	971.9	968.0	964.0	960.1	956.1
30°	951.6	943.5	935.5	929.7	925.9	922.2	918.4	914.6
32.5°	912.8	904.1	895.3	889.0	885.0	881.1	877.2	873.2
35°	855.4	845.3	835.2	828.0	823.7	819.5	815.3	811.0
37.5°	793.6	782.1	770.6	762.3	757.1	751.8	746.7	741.4
40°	750.6	738.4	726.2	717.4	712.0	706.6	701.1	695.8
42.5°	709.4	696.1	682.8	673.7	668.8	664.0	659.1	654.3
45°	648.9	635.5	622.1	612.6	606.9	601.3	595.7	590.1
47.5°	586.2	571.7	557.1	547.3	542.3	537.2	532.3	527.3
50°	544.0	529.4	514.8	504.8	499.5	494.0	488.7	483.2
52.5°	503.1	488.0	472.8	462.8	458.0	453.1	448.3	443.4
55°	442.2	428.6	415.0	405.8	401.1	396.4	391.7	387.0
57.5°	382.4	369.5	356.7	348.2	344.3	340.2	336.2	332.2
60°	344.7	332.0	319.3	311.0	307.0	303.0	299.0	295.0
62.5°	307.3	295.4	283.5	275.4	271.1	267.0	262.9	258.6
65°	254.0	242.5	231.0	223.9	221.4	218.7	216.2	213.6
67.5°	203.2	194.6	185.9	180.3	177.5	174.7	172.0	169.2
70°	171.8	163.5	155.3	150.0	147.3	144.7	142.2	139.6
72.5°	143.5	136.7	130.1	126.1	125.0	124.0	122.9	121.8
75°	107.3	105.0	102.7	101.3	100.8	100.4	99.9	99.4
77.5°	81.0	79.7	78.5	77.6	77.2	76.6	76.1	75.7
80°	65.2	64.5	63.8	63.2	62.7	62.3	61.8	61.3
82.5°	50.0	49.3	48.6	48.2	48.1	48.0	47.9	47.8
85°	28.7	28.2	27.8	27.5	27.5	27.5	27.5	27.5
87.5°	13.5	13.4	13.3	13.4	13.1	13.0	12.9	12.6
90°	14.4	14.9	15.6	16.7	16.2	16.7	17.3	16.7
92.5°	48.5	38.5	34.0	31.0	30.0	28.2	28.8	27.8
95°	207.3	140.6	110.0	89.3	78.4	73.1	69.1	66.9
97.5°	516.9	414.0	339.7	270.8	228.3	202.4	186.8	181.9
100°	679.1	632.5	565.0	483.2	425.1	383.0	360.6	361.1
102.5°	733.1	731.5	692.3	640.4	595.1	561.8	543.0	529.8
105°	748.8	806.4	817.4	802.3	775.9	754.0	735.6	732.7
107.5°	703.4	797.0	847.4	867.9	868.4	861.0	854.7	849.5
110°	660.0	766.1	838.7	879.0	895.1	899.7	898.6	897.4





TEST NUMBER: P332311-840

CATALOG NUMBER: S123RDIP-S775D585U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	617.2	725.5	806.9	858.7	888.2	902.5	906.9	907.1
115°	560.5	660.7	745.4	808.1	851.3	876.7	888.2	891.1
117.5°	519.3	605.8	681.9	745.6	790.6	819.6	836.3	840.1
120°	497.7	575.4	644.5	702.8	748.2	780.5	794.3	797.8
122.5°	480.6	551.0	615.0	669.0	709.5	738.5	753.8	758.1
125°	457.9	520.7	576.0	622.1	658.9	684.3	698.7	702.8
127.5°	438.1	494.1	544.0	585.9	618.7	640.4	653.4	657.1
130°	425.7	477.5	524.1	563.3	593.9	614.6	626.7	631.3
132.5°	414.1	461.8	505.2	542.6	571.3	592.0	602.7	605.9
135°	398.6	439.5	477.0	509.8	538.0	555.2	565.6	569.7
137.5°	384.5	418.0	450.2	478.7	502.4	519.9	528.7	531.3
140°	376.2	405.5	433.1	457.9	479.8	495.9	505.1	504.5
142.5°	368.3	393.5	417.5	439.0	457.7	472.0	480.3	479.7
145°	358.8	377.9	396.3	413.0	427.4	439.5	444.1	445.2
147.5°	351.1	366.2	381.1	392.9	403.8	412.0	416.5	416.9
150°	345.6	358.8	370.9	381.9	390.5	396.9	400.3	400.3
152.5°	340.5	351.9	362.6	371.7	378.5	384.5	386.5	386.5
155°	333.0	342.1	350.8	357.7	362.8	367.5	368.6	369.2
157.5°	324.9	332.5	339.3	344.7	349.2	352.6	353.6	353.5
160°	320.2	326.6	332.3	336.4	340.4	343.9	343.9	343.3
162.5°	314.8	320.1	325.5	329.0	331.6	334.7	334.7	334.1
165°	307.6	311.0	315.1	317.9	320.2	322.6	321.9	321.9
167.5°	301.3	304.0	306.3	308.4	309.4	311.0	310.4	310.4
170°	297.2	298.9	301.2	302.4	303.0	304.2	303.6	303.6
172.5°	293.6	294.8	296.6	297.3	297.4	298.6	297.6	297.1
175°	288.6	289.1	290.3	290.3	290.3	290.8	290.3	289.7
177.5°	285.5	285.9	286.4	286.4	285.9	286.4	285.5	285.5
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6

(END OF REPORT)