

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: P332936

Luminaire Tested: **S124RDIP-S795D590U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332936  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIP-S795D590U835-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5322.9 lumens  
Efficiency: N/A  
Efficacy: 132.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

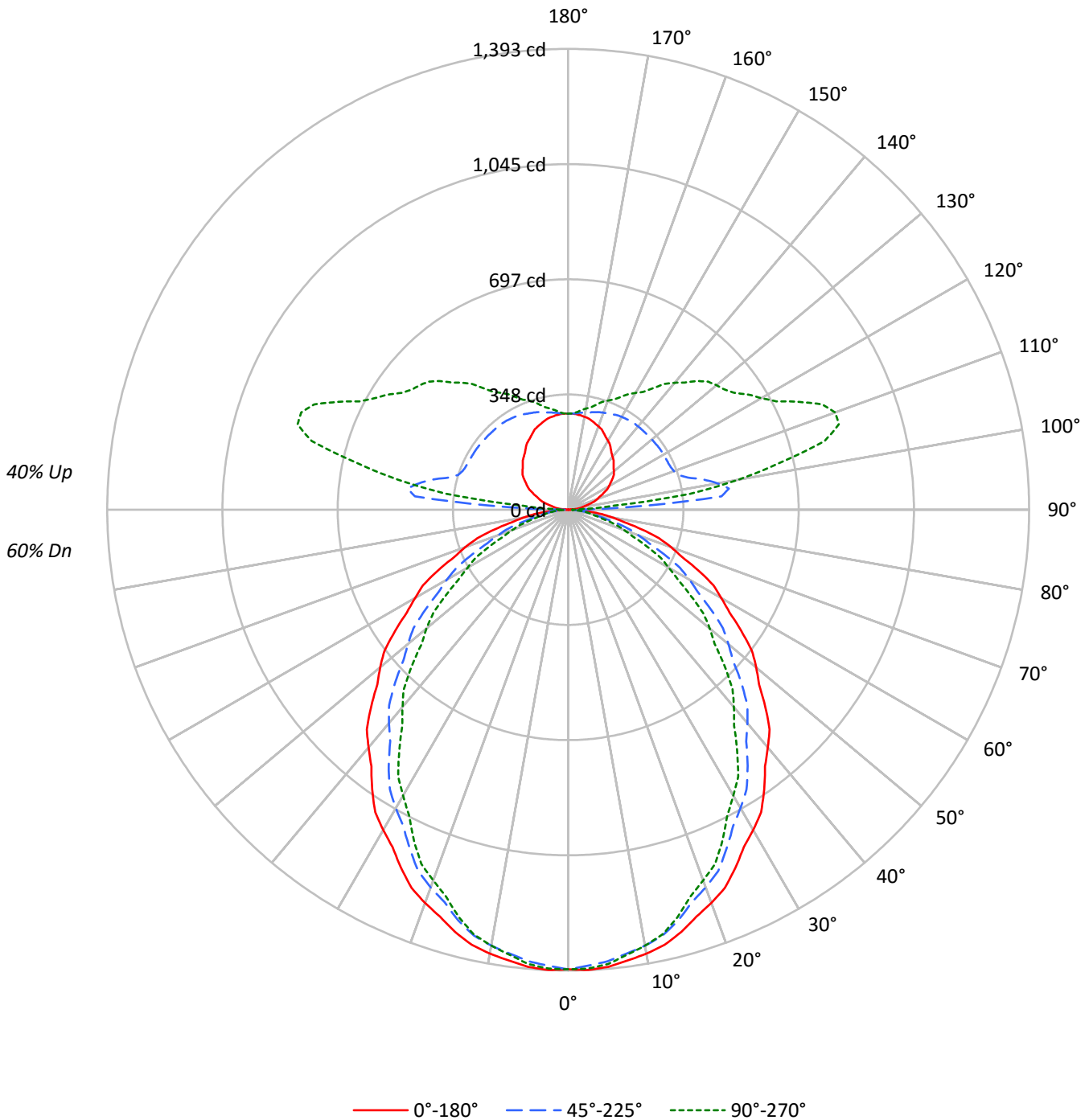
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	66	66	66	60
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	59	57	56	51
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48	44
3	84	74	67	61	78	70	63	58	61	56	52	54	50	47	46	43	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36	32
5	71	59	51	45	66	56	48	43	49	43	39	43	39	35	38	34	31	28
6	65	53	45	39	61	50	43	38	44	39	34	39	34	31	34	30	28	25
7	60	48	40	35	56	46	38	33	40	35	30	36	31	27	31	28	25	22
8	56	44	36	31	53	41	34	29	37	31	27	33	28	25	29	25	22	20
9	52	40	33	28	49	38	31	26	34	28	24	30	26	22	27	23	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	21	18	16

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

	0°	45°	90°
0°	11215	11215	11215
5°	11240	11102	11171
10°	11170	10969	10969
15°	11041	10739	10659
20°	10865	10436	10244
25°	10640	10081	9825
30°	10421	9707	9300
35°	10178	9319	8774
40°	9887	8878	8205
45°	9618	8440	7626
50°	9311	7935	7013
55°	8983	7410	6348
60°	8622	6835	5667
65°	8290	6117	4999
70°	7808	5323	4244
75°	7199	4414	3450
80°	6281	3361	3166
85°	5317	3057	2853



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.5	2.5
10°-20°	363.9	6.8
20°-30°	525.5	9.9
30°-40°	595.6	11.2
40°-50°	575.2	10.8
50°-60°	478.3	9.0
60°-70°	330.3	6.2
70°-80°	167.4	3.1
80°-90°	44.5	0.8
90°-100°	209.7	3.9
100°-110°	436.5	8.2
110°-120°	391.0	7.3
120°-130°	328.9	6.2
130°-140°	274.2	5.2
140°-150°	209.5	3.9
150°-160°	147.2	2.8
160°-170°	86.6	1.6
170°-180°	28.2	0.5
0°-30°	1019.8	19.2
0°-40°	1615.5	30.3
0°-60°	2668.9	50.1
0°-90°	3211.1	60.3
90°-120°	1037.2	19.5
90°-150°	1849.7	34.8
90°-180°	2112.0	39.7
0°-180°	5322.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1387	1382	1370	1380	1378	132
15°	1321	1311	1285	1282	1275	372
25°	1194	1174	1132	1114	1103	550
35°	1033	998	946	910	890	645
45°	842	802	739	689	668	649
55°	638	594	526	473	451	571
65°	434	387	320	276	262	428
75°	231	191	142	118	111	244
85°	57	37	33	31	31	65
90°	1	5	10	11	12	4
95°	19	59	465	230	139	21
105°	67	97	374	806	803	71
115°	118	148	334	641	771	117
125°	164	194	332	546	615	146
135°	194	232	329	484	550	150
145°	224	257	327	408	449	141
155°	255	275	318	360	376	118
165°	278	286	305	323	328	78
175°	290	290	293	297	296	27
180°	290	290	290	290	290	



TEST NUMBER: P332936

CATALOG NUMBER: S124RDIP-S795D590U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1392.6	1391.8	1391.0	1390.3	1389.5	1388.1	1386.0	1384.0	1381.9	1379.8	1381.9
5°	1387.0	1386.1	1385.1	1384.2	1383.2	1381.4	1378.5	1375.7	1372.8	1370.0	1372.4
7.5°	1374.5	1373.5	1372.5	1371.5	1370.5	1368.2	1364.5	1360.8	1357.1	1353.4	1354.9
10°	1362.6	1361.4	1360.2	1359.0	1357.8	1355.1	1350.9	1346.6	1342.4	1338.1	1339.0
12.5°	1347.2	1345.9	1344.5	1343.1	1341.8	1338.6	1333.6	1328.5	1323.5	1318.5	1319.1
15°	1321.1	1319.0	1316.8	1314.7	1312.6	1308.6	1302.6	1296.7	1290.8	1284.9	1284.4
17.5°	1289.4	1286.3	1283.2	1280.2	1277.1	1272.0	1264.9	1257.8	1250.7	1243.6	1242.3
20°	1264.7	1261.6	1258.6	1255.5	1252.4	1246.9	1238.8	1230.8	1222.7	1214.7	1212.8
22.5°	1237.5	1234.0	1230.6	1227.1	1223.7	1217.6	1209.0	1200.4	1191.8	1183.2	1180.4
25°	1194.5	1190.2	1186.0	1181.7	1177.5	1170.5	1160.8	1151.1	1141.4	1131.7	1127.7
27.5°	1149.4	1144.1	1138.7	1133.4	1128.0	1120.2	1109.8	1099.5	1089.1	1078.8	1073.8
30°	1117.9	1112.0	1106.1	1100.2	1094.3	1085.8	1074.7	1063.6	1052.4	1041.3	1035.4
32.5°	1084.7	1078.1	1071.4	1064.7	1058.1	1049.0	1037.5	1026.0	1014.5	1003.0	996.2
35°	1032.8	1025.3	1017.7	1010.1	1002.6	992.9	981.1	969.2	957.4	945.6	937.6
37.5°	977.3	969.5	961.7	953.9	946.1	935.7	922.6	909.5	896.4	883.3	874.3
40°	938.2	930.4	922.6	914.8	907.0	896.3	882.8	869.4	855.9	842.4	832.5
42.5°	900.7	892.5	884.4	876.2	868.0	856.9	842.9	828.8	814.8	800.7	790.6
45°	842.4	833.7	824.9	816.2	807.4	796.0	781.8	767.6	753.4	739.3	727.7
47.5°	782.2	773.2	764.2	755.1	746.1	734.2	719.5	704.7	690.0	675.2	663.2
50°	741.4	732.2	722.9	713.7	704.5	692.3	677.2	662.1	646.9	631.8	620.0
52.5°	699.7	690.7	681.6	672.6	663.6	651.3	635.8	620.3	604.8	589.3	577.3
55°	638.2	628.7	619.3	609.8	600.4	588.0	572.6	557.2	541.9	526.5	514.2
57.5°	577.4	567.5	557.7	547.9	538.0	525.5	510.4	495.3	480.2	465.0	452.6
60°	534.0	524.5	515.1	505.6	496.1	483.9	468.7	453.6	438.5	423.3	411.0
62.5°	494.8	485.0	475.2	465.3	455.5	442.8	427.3	411.8	396.3	380.8	369.4
65°	434.0	423.8	413.6	403.5	393.3	380.7	365.5	350.4	335.3	320.2	310.0
67.5°	370.8	361.1	351.3	341.6	331.8	320.0	305.9	291.9	277.8	263.8	255.0
70°	330.8	320.9	310.9	301.0	291.1	279.4	265.9	252.4	239.0	225.5	217.7
72.5°	288.3	279.3	270.3	261.3	252.3	241.5	228.8	216.0	203.3	190.6	183.9
75°	230.8	222.1	213.3	204.6	195.8	185.9	174.8	163.7	152.6	141.5	136.0
77.5°	172.5	165.1	157.7	150.3	142.8	134.6	125.7	116.7	107.7	98.7	95.5
80°	135.1	128.2	121.4	114.5	107.7	100.7	93.6	86.5	79.4	72.3	71.6
82.5°	102.8	96.5	90.2	83.9	77.6	72.4	68.4	64.3	60.2	56.2	55.6
85°	57.4	52.7	48.0	43.3	38.5	35.8	35.1	34.4	33.7	33.0	32.5
87.5°	19.7	18.4	17.2	15.8	14.4	13.6	14.1	13.9	13.9	14.0	13.7
90°	0.6	1.7	3.4	4.0	4.6	4.6	8.0	8.0	9.1	10.3	9.7
92.5°	6.5	9.5	14.8	21.8	30.1	42.0	71.0	115.2	158.4	180.9	150.7
95°	18.8	20.5	26.2	33.7	47.3	71.3	120.9	214.5	350.8	464.9	478.0
97.5°	33.8	33.8	38.7	45.5	57.3	77.4	115.6	192.8	328.4	489.7	600.6
100°	43.4	43.4	47.3	54.2	65.0	83.3	116.9	181.4	297.8	458.6	604.7
102.5°	52.5	53.4	56.9	63.3	73.7	91.0	121.5	178.2	277.2	419.9	570.4
105°	66.7	68.5	71.3	78.2	88.4	105.0	132.3	179.7	259.6	374.2	508.3
107.5°	82.5	83.6	86.5	93.8	103.6	119.9	145.0	188.1	256.4	348.7	458.1
110°	93.0	94.1	97.0	103.8	114.1	129.5	154.6	194.5	257.3	340.0	433.0



TEST NUMBER: P332936

CATALOG NUMBER: S124RDIP-S795D590U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.0	104.2	107.5	113.9	124.1	139.5	163.7	201.4	260.0	335.9	418.8
115°	117.5	119.2	123.2	128.9	139.8	155.2	178.0	212.2	265.3	333.7	405.6
117.5°	132.6	134.2	137.7	144.0	154.1	170.1	191.8	223.3	270.8	333.1	399.7
120°	142.6	143.8	147.7	154.0	163.7	179.7	201.4	231.0	275.0	333.1	396.5
122.5°	151.7	152.9	156.9	162.7	173.3	188.8	210.5	238.3	279.1	332.7	392.8
125°	163.7	166.0	169.4	175.7	186.5	202.5	223.0	249.3	285.2	332.0	386.8
127.5°	174.3	176.2	180.3	187.4	198.7	214.8	234.7	258.8	290.1	330.7	378.7
130°	180.3	182.5	187.1	195.7	206.5	223.0	242.4	264.7	293.8	330.3	373.6
132.5°	186.2	188.0	194.0	202.1	213.8	229.4	248.8	270.6	297.0	329.8	369.1
135°	194.5	196.8	202.5	212.2	224.2	239.0	257.8	278.4	301.8	329.1	362.2
137.5°	202.9	205.0	211.3	220.5	233.0	247.1	264.7	283.9	304.6	329.0	356.3
140°	208.8	210.5	216.8	226.5	238.4	252.1	269.3	287.5	306.9	328.6	353.1
142.5°	215.2	216.9	222.7	231.9	243.5	256.7	273.4	290.2	308.7	328.6	350.4
145°	224.2	225.9	231.6	239.6	250.4	263.0	277.8	293.2	309.8	327.4	345.7
147.5°	234.3	234.9	239.9	248.1	257.2	268.5	282.4	295.8	310.3	325.4	341.5
150°	240.7	241.3	245.9	252.7	261.3	272.1	284.7	297.2	310.3	324.0	338.3
152.5°	246.7	246.8	251.3	257.7	265.4	275.3	286.5	298.1	309.4	321.7	334.6
155°	255.0	255.6	259.0	264.7	271.0	279.5	289.2	298.9	308.0	318.3	329.1
157.5°	263.1	263.1	266.3	270.7	276.2	282.9	291.2	298.9	306.6	314.8	323.6
160°	268.1	268.1	270.4	274.4	278.9	285.2	292.1	298.9	305.2	312.0	319.5
162.5°	272.7	272.2	274.0	277.6	281.7	286.6	293.0	298.9	303.8	309.3	315.8
165°	277.8	277.8	278.9	281.8	284.7	288.1	293.2	297.8	301.2	305.2	309.8
167.5°	282.9	282.4	282.9	285.1	286.7	289.3	293.1	296.4	298.5	301.1	304.3
170°	285.2	284.7	285.2	286.9	288.1	289.8	292.6	295.5	296.6	298.3	300.6
172.5°	287.5	286.9	287.0	288.3	289.0	290.2	292.2	294.6	294.8	295.6	297.4
175°	289.8	289.2	289.2	289.8	290.4	290.4	291.5	293.2	292.6	292.6	293.8
177.5°	290.8	290.4	289.9	290.4	290.4	290.4	290.8	291.7	290.8	290.8	291.3
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4



TEST NUMBER: P332936

CATALOG NUMBER: S124RDIP-S795D590U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2	1389.2
2.5°	1384.0	1386.0	1388.1	1389.1	1388.9	1388.7	1388.5	1388.3
5°	1374.7	1377.1	1379.5	1380.4	1379.9	1379.5	1379.0	1378.5
7.5°	1356.4	1358.0	1359.5	1359.8	1359.1	1358.3	1357.6	1356.8
10°	1340.0	1340.9	1341.9	1341.9	1340.9	1340.0	1339.0	1338.1
12.5°	1319.7	1320.2	1320.8	1320.4	1319.1	1317.8	1316.4	1315.1
15°	1284.0	1283.5	1283.0	1282.0	1280.3	1278.6	1277.0	1275.3
17.5°	1241.0	1239.7	1238.3	1236.4	1233.9	1231.4	1228.9	1226.4
20°	1210.9	1209.0	1207.1	1204.7	1201.6	1198.5	1195.4	1192.4
22.5°	1177.6	1174.7	1171.9	1169.2	1166.7	1164.2	1161.7	1159.2
25°	1123.7	1119.7	1115.7	1112.5	1110.1	1107.8	1105.4	1103.0
27.5°	1068.8	1063.9	1058.9	1054.7	1051.3	1047.9	1044.5	1041.1
30°	1029.5	1023.6	1017.7	1012.8	1009.1	1005.3	1001.5	997.7
32.5°	989.3	982.5	975.6	970.4	966.8	963.2	959.6	956.0
35°	929.5	921.5	913.5	907.3	903.1	898.8	894.5	890.3
37.5°	865.3	856.3	847.3	840.7	836.5	832.2	828.0	823.7
40°	822.6	812.6	802.7	795.6	791.4	787.1	782.9	778.6
42.5°	780.5	770.4	760.3	753.0	748.5	744.1	739.7	735.2
45°	716.1	704.5	692.9	685.0	680.7	676.5	672.2	668.0
47.5°	651.2	639.2	627.2	618.8	614.2	609.5	604.8	600.1
50°	608.2	596.4	584.5	576.4	571.9	567.4	562.9	558.4
52.5°	565.3	553.3	541.2	532.9	528.2	523.5	518.9	514.2
55°	501.9	489.6	477.4	469.0	464.5	460.0	455.5	451.0
57.5°	440.1	427.6	415.1	407.2	403.8	400.4	397.0	393.6
60°	398.8	386.5	374.2	366.1	362.4	358.6	354.8	351.0
62.5°	358.1	346.8	335.4	328.2	325.2	322.2	319.1	316.1
65°	299.8	289.7	279.5	273.0	270.2	267.3	264.5	261.7
67.5°	246.3	237.6	228.8	222.9	219.8	216.6	213.5	210.4
70°	209.9	202.1	194.3	189.2	186.9	184.5	182.1	179.8
72.5°	177.3	170.6	163.9	159.5	157.4	155.2	153.0	150.8
75°	130.6	125.2	119.7	116.3	114.9	113.5	112.0	110.6
77.5°	92.4	89.2	86.0	84.2	83.8	83.4	83.0	82.5
80°	70.9	70.2	69.5	69.0	68.8	68.5	68.3	68.1
82.5°	55.1	54.6	54.1	53.7	53.5	53.2	53.0	52.8
85°	32.0	31.6	31.1	30.8	30.8	30.8	30.8	30.8
87.5°	13.6	13.5	13.4	13.4	13.7	14.0	14.1	14.3
90°	10.3	10.8	11.4	11.4	12.0	12.5	12.0	12.0
92.5°	112.0	84.3	67.1	55.7	48.9	45.9	43.9	43.9
95°	422.7	334.3	257.8	202.5	174.6	156.9	146.6	139.2
97.5°	624.5	591.7	535.9	476.3	435.4	401.0	383.9	372.0
100°	688.0	699.4	671.4	629.2	579.6	544.8	527.7	523.1
102.5°	684.8	741.4	749.5	731.9	701.4	676.2	658.2	654.5
105°	638.9	737.6	794.1	817.5	818.6	814.0	806.0	802.6
107.5°	573.8	678.8	758.4	809.2	837.4	850.4	856.1	857.6
110°	534.5	633.2	715.9	778.7	819.2	843.1	853.4	858.5





TEST NUMBER: P332936

CATALOG NUMBER: S124RDIP-S795D590U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	505.8	593.0	671.2	733.9	779.9	808.9	823.3	831.6
115°	476.9	547.1	613.8	668.6	713.6	747.9	766.1	770.7
117.5°	462.7	520.8	573.3	619.7	658.2	686.9	705.4	709.0
120°	456.4	509.4	555.0	595.5	628.1	653.2	668.0	674.3
122.5°	450.9	502.1	543.6	579.1	606.6	628.1	640.6	646.9
125°	441.5	490.6	529.9	561.3	584.1	600.7	611.5	614.9
127.5°	430.1	477.0	516.3	546.0	569.0	583.7	592.8	596.2
130°	421.0	466.1	504.8	535.1	558.5	572.7	581.9	585.3
132.5°	411.4	453.7	491.6	521.8	544.8	560.9	569.5	573.0
135°	398.2	435.3	470.0	498.6	521.4	537.4	546.5	549.9
137.5°	386.2	417.6	446.9	472.7	494.0	509.8	517.3	521.4
140°	379.3	406.2	431.8	455.8	475.8	488.3	496.3	500.9
142.5°	373.0	396.6	418.6	439.4	457.0	468.7	475.8	478.9
145°	363.9	383.3	400.5	416.4	430.7	440.4	446.1	448.9
147.5°	356.5	371.9	385.6	398.2	408.7	417.0	421.3	422.4
150°	352.0	365.1	376.5	386.8	395.9	403.3	406.7	407.3
152.5°	346.9	358.2	368.7	377.2	384.9	391.0	393.0	393.6
155°	339.4	348.5	357.1	363.9	369.7	374.2	375.9	375.9
157.5°	331.3	339.0	346.1	351.6	356.0	359.4	360.4	360.4
160°	326.3	332.6	338.8	343.4	346.8	350.3	350.8	350.8
162.5°	321.3	326.6	331.5	335.7	338.2	341.6	342.2	341.7
165°	314.3	317.7	321.7	324.6	326.9	329.1	328.6	328.0
167.5°	307.6	310.2	313.4	315.1	316.3	317.7	317.6	317.2
170°	303.5	305.2	307.5	309.2	310.3	310.9	310.3	310.3
172.5°	299.8	301.1	302.5	303.7	304.4	305.0	304.4	303.5
175°	294.9	295.5	296.6	296.6	296.6	297.8	296.6	295.5
177.5°	291.7	292.2	292.2	292.6	292.2	292.6	291.7	290.8
180°	290.4	290.4	290.4	290.4	290.4	290.4	290.4	290.4

(END OF REPORT)