

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: P332936-840

Luminaire Tested: **S124RDIP-S795D590U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332936-840  
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-S795D590U840-4F0-1E-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: 5375.3 lumens  
Efficiency: N/A  
Efficacy: 133.4 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

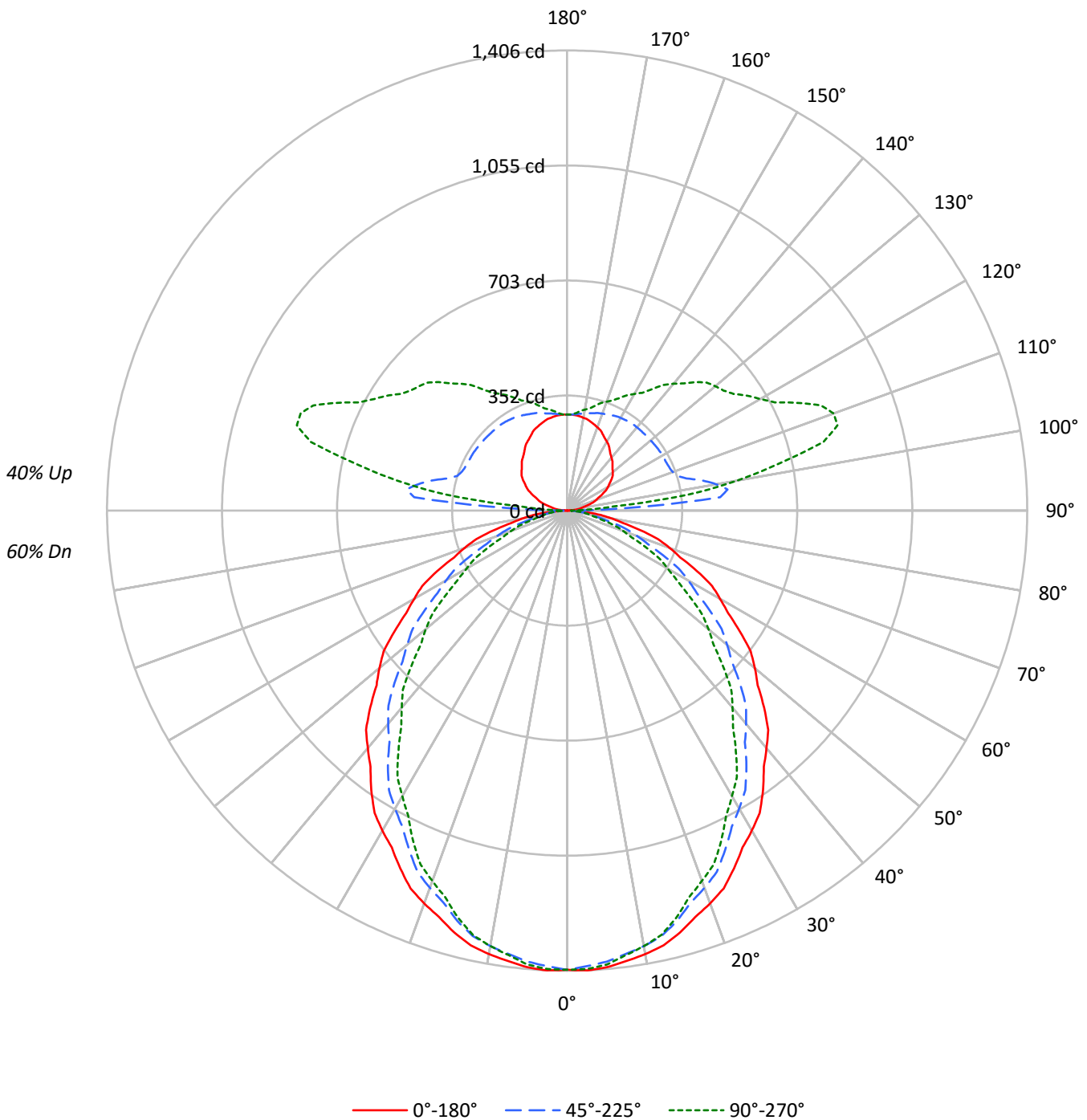
Input Watts (W): 40.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	11326	11326	11326
5°	11351	11212	11281
10°	11280	11077	11077
15°	11150	10845	10764
20°	10972	10539	10345
25°	10745	10180	9922
30°	10523	9803	9392
35°	10279	9411	8861
40°	9985	8965	8286
45°	9712	8524	7702
50°	9403	8013	7082
55°	9071	7484	6410
60°	8707	6902	5724
65°	8373	6178	5049
70°	7886	5375	4286
75°	7271	4457	3484
80°	6341	3394	3199
85°	5372	3084	2881



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.8	2.5
10°-20°	367.5	6.8
20°-30°	530.6	9.9
30°-40°	601.5	11.2
40°-50°	580.8	10.8
50°-60°	483.0	9.0
60°-70°	333.5	6.2
70°-80°	169.1	3.1
80°-90°	45.0	0.8
90°-100°	211.8	3.9
100°-110°	440.8	8.2
110°-120°	394.8	7.3
120°-130°	332.1	6.2
130°-140°	276.9	5.2
140°-150°	211.5	3.9
150°-160°	148.7	2.8
160°-170°	87.5	1.6
170°-180°	28.5	0.5
0°-30°	1029.9	19.2
0°-40°	1631.4	30.3
0°-60°	2695.2	50.1
0°-90°	3242.8	60.3
90°-120°	1047.4	19.5
90°-150°	1868.0	34.8
90°-180°	2133.0	39.7
0°-180°	5375.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1401	1396	1384	1394	1392	133
15°	1334	1324	1298	1295	1288	376
25°	1206	1186	1143	1125	1114	556
35°	1043	1008	955	919	899	651
45°	851	810	747	696	675	656
55°	644	600	532	478	455	576
65°	438	391	323	279	264	433
75°	233	193	143	119	112	246
85°	58	38	33	31	31	65
90°	1	5	10	12	12	4
95°	19	60	470	232	141	21
105°	67	98	378	814	810	72
115°	119	149	337	648	778	118
125°	165	196	335	551	621	147
135°	196	234	332	489	555	152
145°	226	259	331	412	453	142
155°	258	278	321	364	380	119
165°	280	289	308	326	331	79
175°	293	293	296	300	298	28
180°	293	293	293	293	293	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1406.3	1405.5	1404.7	1404.0	1403.2	1401.8	1399.7	1397.7	1395.5	1393.4	1395.5
5°	1400.7	1399.8	1398.8	1397.9	1396.8	1395.0	1392.1	1389.3	1386.3	1383.5	1385.9
7.5°	1388.1	1387.0	1386.0	1385.0	1384.0	1381.7	1378.0	1374.2	1370.5	1366.8	1368.3
10°	1376.0	1374.8	1373.6	1372.4	1371.2	1368.5	1364.2	1359.9	1355.6	1351.3	1352.2
12.5°	1360.5	1359.2	1357.8	1356.3	1355.0	1351.8	1346.8	1341.6	1336.6	1331.5	1332.1
15°	1334.1	1332.0	1329.8	1327.7	1325.5	1321.5	1315.5	1309.5	1303.5	1297.6	1297.1
17.5°	1302.1	1299.0	1295.9	1292.8	1289.7	1284.5	1277.4	1270.2	1263.0	1255.9	1254.6
20°	1277.2	1274.0	1271.0	1267.9	1264.8	1259.2	1251.0	1242.9	1234.8	1226.7	1224.8
22.5°	1249.7	1246.2	1242.7	1239.2	1235.8	1229.6	1220.9	1212.2	1203.6	1194.9	1192.0
25°	1206.3	1201.9	1197.7	1193.4	1189.1	1182.0	1172.3	1162.5	1152.7	1142.9	1138.8
27.5°	1160.7	1155.4	1149.9	1144.6	1139.1	1131.3	1120.7	1110.3	1099.8	1089.4	1084.4
30°	1128.9	1123.0	1117.0	1111.1	1105.1	1096.5	1085.3	1074.1	1062.8	1051.6	1045.6
32.5°	1095.4	1088.7	1082.0	1075.2	1068.5	1059.3	1047.7	1036.1	1024.5	1012.9	1006.0
35°	1043.0	1035.4	1027.7	1020.1	1012.5	1002.7	990.8	978.8	966.8	954.9	946.8
37.5°	986.9	979.1	971.2	963.3	955.4	944.9	931.7	918.5	905.2	892.0	882.9
40°	947.5	939.6	931.7	923.8	915.9	905.1	891.5	878.0	864.3	850.7	840.7
42.5°	909.6	901.3	893.1	884.8	876.6	865.4	851.2	837.0	822.8	808.6	798.4
45°	850.7	841.9	833.0	824.3	815.4	803.9	789.5	775.2	760.8	746.6	734.9
47.5°	789.9	780.8	771.7	762.5	753.5	741.4	726.6	711.7	696.8	681.9	669.7
50°	748.7	739.4	730.0	720.7	711.4	699.1	683.9	668.6	653.3	638.0	626.1
52.5°	706.6	697.5	688.3	679.2	670.1	657.7	642.1	626.4	610.8	595.1	583.0
55°	644.5	634.9	625.4	615.8	606.3	593.8	578.2	562.7	547.2	531.7	519.3
57.5°	583.1	573.1	563.2	553.3	543.3	530.7	515.4	500.2	484.9	469.6	457.1
60°	539.3	529.7	520.2	510.6	501.0	488.7	473.3	458.1	442.8	427.5	415.1
62.5°	499.7	489.8	479.9	469.9	460.0	447.2	431.5	415.9	400.2	384.6	373.0
65°	438.3	428.0	417.7	407.5	397.2	384.5	369.1	353.9	338.6	323.4	313.1
67.5°	374.5	364.7	354.8	345.0	335.1	323.2	308.9	294.8	280.5	266.4	257.5
70°	334.1	324.1	314.0	304.0	294.0	282.2	268.5	254.9	241.4	227.7	219.8
72.5°	291.1	282.1	273.0	263.9	254.8	243.9	231.1	218.1	205.3	192.5	185.7
75°	233.1	224.3	215.4	206.6	197.7	187.7	176.5	165.3	154.1	142.9	137.3
77.5°	174.2	166.7	159.3	151.8	144.2	135.9	126.9	117.9	108.8	99.7	96.4
80°	136.4	129.5	122.6	115.6	108.8	101.7	94.5	87.4	80.2	73.0	72.3
82.5°	103.8	97.5	91.1	84.7	78.4	73.1	69.1	64.9	60.8	56.8	56.1
85°	58.0	53.2	48.5	43.7	38.9	36.2	35.4	34.7	34.0	33.3	32.8
87.5°	19.9	18.6	17.4	16.0	14.5	13.7	14.2	14.0	14.0	14.1	13.8
90°	0.6	1.7	3.4	4.0	4.6	4.6	8.1	8.1	9.2	10.4	9.8
92.5°	6.6	9.6	14.9	22.0	30.4	42.4	71.7	116.3	160.0	182.7	152.2
95°	19.0	20.7	26.5	34.0	47.8	72.0	122.1	216.6	354.3	469.5	482.7
97.5°	34.1	34.1	39.1	45.9	57.9	78.2	116.7	194.7	331.6	494.5	606.5
100°	43.8	43.8	47.8	54.7	65.6	84.1	118.1	183.2	300.7	463.1	610.7
102.5°	53.0	53.9	57.5	63.9	74.4	91.9	122.7	180.0	279.9	424.0	576.0
105°	67.4	69.2	72.0	79.0	89.3	106.0	133.6	181.5	262.2	377.9	513.3
107.5°	83.3	84.4	87.4	94.7	104.6	121.1	146.4	190.0	258.9	352.1	462.6
110°	93.9	95.0	98.0	104.8	115.2	130.8	156.1	196.4	259.8	343.4	437.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.0	105.2	108.6	115.0	125.3	140.9	165.3	203.4	262.6	339.2	422.9
115°	118.7	120.4	124.4	130.2	141.2	156.7	179.8	214.3	267.9	337.0	409.6
117.5°	133.9	135.5	139.1	145.4	155.6	171.8	193.7	225.5	273.5	336.4	403.6
120°	144.0	145.2	149.2	155.5	165.3	181.5	203.4	233.3	277.7	336.4	400.4
122.5°	153.2	154.4	158.4	164.3	175.0	190.7	212.6	240.7	281.9	336.0	396.7
125°	165.3	167.6	171.1	177.4	188.3	204.5	225.2	251.8	288.0	335.3	390.6
127.5°	176.0	177.9	182.1	189.2	200.7	216.9	237.0	261.4	293.0	334.0	382.4
130°	182.1	184.3	188.9	197.6	208.5	225.2	244.8	267.3	296.7	333.6	377.3
132.5°	188.0	189.9	195.9	204.1	215.9	231.7	251.3	273.3	299.9	333.1	372.7
135°	196.4	198.7	204.5	214.3	226.4	241.4	260.3	281.1	304.8	332.3	365.8
137.5°	204.9	207.0	213.4	222.7	235.3	249.5	267.3	286.7	307.6	332.2	359.8
140°	210.9	212.6	218.9	228.7	240.8	254.6	272.0	290.3	309.9	331.8	356.6
142.5°	217.3	219.0	224.9	234.2	245.9	259.2	276.1	293.1	311.7	331.8	353.9
145°	226.4	228.1	233.9	242.0	252.9	265.6	280.5	296.1	312.9	330.6	349.1
147.5°	236.6	237.2	242.3	250.5	259.7	271.1	285.2	298.7	313.4	328.6	344.9
150°	243.1	243.7	248.3	255.2	263.9	274.8	287.5	300.1	313.4	327.2	341.6
152.5°	249.1	249.2	253.8	260.2	268.0	278.0	289.3	301.0	312.5	324.9	337.9
155°	257.5	258.1	261.6	267.3	273.7	282.3	292.1	301.8	311.0	321.4	332.3
157.5°	265.7	265.7	268.9	273.4	278.9	285.7	294.1	301.8	309.6	317.9	326.8
160°	270.7	270.7	273.1	277.1	281.7	288.0	295.0	301.8	308.2	315.1	322.7
162.5°	275.4	274.9	276.7	280.3	284.5	289.4	295.9	301.8	306.8	312.4	318.9
165°	280.5	280.5	281.7	284.6	287.5	290.9	296.1	300.7	304.2	308.2	312.9
167.5°	285.7	285.2	285.7	287.9	289.5	292.2	296.0	299.3	301.4	304.1	307.3
170°	288.0	287.5	288.0	289.7	290.9	292.7	295.5	298.4	299.5	301.2	303.6
172.5°	290.3	289.7	289.8	291.1	291.9	293.1	295.1	297.5	297.7	298.5	300.3
175°	292.7	292.1	292.1	292.7	293.3	293.3	294.4	296.1	295.5	295.5	296.7
177.5°	293.7	293.3	292.8	293.3	293.3	293.3	293.7	294.6	293.7	293.7	294.2
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1397.7	1399.7	1401.8	1402.8	1402.6	1402.4	1402.2	1402.0
5°	1388.3	1390.7	1393.1	1394.0	1393.5	1393.1	1392.6	1392.1
7.5°	1369.8	1371.4	1372.9	1373.2	1372.5	1371.7	1371.0	1370.2
10°	1353.2	1354.1	1355.1	1355.1	1354.1	1353.2	1352.2	1351.3
12.5°	1332.7	1333.2	1333.8	1333.4	1332.1	1330.8	1329.4	1328.1
15°	1296.7	1296.2	1295.7	1294.6	1292.9	1291.2	1289.6	1287.9
17.5°	1253.2	1251.9	1250.5	1248.6	1246.1	1243.5	1241.0	1238.5
20°	1222.8	1220.9	1219.0	1216.6	1213.5	1210.3	1207.2	1204.2
22.5°	1189.2	1186.3	1183.5	1180.7	1178.2	1175.7	1173.2	1170.6
25°	1134.8	1130.7	1126.7	1123.5	1121.1	1118.7	1116.3	1113.9
27.5°	1079.3	1074.4	1069.3	1065.1	1061.7	1058.2	1054.8	1051.4
30°	1039.7	1033.7	1027.7	1022.8	1019.1	1015.2	1011.4	1007.5
32.5°	999.1	992.2	985.2	980.0	976.3	972.7	969.1	965.4
35°	938.7	930.6	922.5	916.3	912.0	907.7	903.3	899.1
37.5°	873.8	864.7	855.7	849.0	844.8	840.4	836.2	831.8
40°	830.7	820.6	810.6	803.4	799.2	794.9	790.6	786.3
42.5°	788.2	778.0	767.8	760.4	755.9	751.4	747.0	742.5
45°	723.2	711.4	699.7	691.8	687.4	683.2	678.8	674.6
47.5°	657.6	645.5	633.4	624.9	620.3	615.5	610.8	606.0
50°	614.2	602.3	590.3	582.1	577.5	573.0	568.5	563.9
52.5°	570.9	558.8	546.5	538.2	533.4	528.7	524.0	519.3
55°	506.9	494.4	482.1	473.6	469.1	464.5	460.0	455.4
57.5°	444.4	431.8	419.2	411.2	407.8	404.3	400.9	397.5
60°	402.7	390.3	377.9	369.7	366.0	362.1	358.3	354.5
62.5°	361.6	350.2	338.7	331.4	328.4	325.4	322.2	319.2
65°	302.8	292.6	282.3	275.7	272.9	269.9	267.1	264.3
67.5°	248.7	239.9	231.1	225.1	222.0	218.7	215.6	212.5
70°	212.0	204.1	196.2	191.1	188.7	186.3	183.9	181.6
72.5°	179.0	172.3	165.5	161.1	159.0	156.7	154.5	152.3
75°	131.9	126.4	120.9	117.4	116.0	114.6	113.1	111.7
77.5°	93.3	90.1	86.8	85.0	84.6	84.2	83.8	83.3
80°	71.6	70.9	70.2	69.7	69.5	69.2	69.0	68.8
82.5°	55.6	55.1	54.6	54.2	54.0	53.7	53.5	53.3
85°	32.3	31.9	31.4	31.1	31.1	31.1	31.1	31.1
87.5°	13.7	13.6	13.5	13.5	13.8	14.1	14.2	14.4
90°	10.4	10.9	11.5	11.5	12.1	12.6	12.1	12.1
92.5°	113.1	85.1	67.8	56.2	49.4	46.4	44.3	44.3
95°	426.9	337.6	260.3	204.5	176.3	158.4	148.0	140.6
97.5°	630.7	597.5	541.2	481.0	439.7	405.0	387.7	375.7
100°	694.8	706.3	678.0	635.4	585.3	550.2	532.9	528.3
102.5°	691.6	748.7	756.9	739.1	708.3	682.9	664.7	661.0
105°	645.2	744.9	801.9	825.6	826.7	822.0	814.0	810.5
107.5°	579.5	685.5	765.9	817.2	845.7	858.8	864.5	866.1
110°	539.8	639.4	723.0	786.4	827.3	851.4	861.8	867.0





TEST NUMBER: P332936-840

CATALOG NUMBER: S124RDIP-S795D590U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	510.8	598.8	677.8	741.1	787.6	816.9	831.4	839.8
115°	481.6	552.5	619.9	675.2	720.6	755.3	773.7	778.3
117.5°	467.3	525.9	579.0	625.8	664.7	693.7	712.4	716.0
120°	460.9	514.4	560.5	601.4	634.3	659.6	674.6	681.0
122.5°	455.3	507.1	549.0	584.8	612.6	634.3	646.9	653.3
125°	445.9	495.4	535.1	566.8	589.9	606.6	617.5	621.0
127.5°	434.3	481.7	521.4	551.4	574.6	589.5	598.6	602.1
130°	425.2	470.7	509.8	540.4	564.0	578.3	587.6	591.1
132.5°	415.5	458.2	496.4	526.9	550.2	566.4	575.1	578.7
135°	402.1	439.6	474.6	503.5	526.5	542.7	551.9	555.3
137.5°	390.0	421.7	451.3	477.4	498.9	514.8	522.4	526.5
140°	383.0	410.2	436.1	460.3	480.5	493.1	501.2	505.8
142.5°	376.7	400.5	422.7	443.7	461.5	473.3	480.5	483.6
145°	367.5	387.1	404.5	420.5	434.9	444.7	450.5	453.3
147.5°	360.0	375.6	389.4	402.1	412.7	421.1	425.5	426.6
150°	355.5	368.7	380.2	390.6	399.8	407.3	410.7	411.3
152.5°	350.3	361.7	372.3	380.9	388.7	394.9	396.9	397.5
155°	342.7	351.9	360.6	367.5	373.3	377.9	379.6	379.6
157.5°	334.6	342.3	349.5	355.1	359.5	362.9	364.0	364.0
160°	329.5	335.9	342.1	346.8	350.2	353.8	354.3	354.3
162.5°	324.5	329.8	334.8	339.0	341.5	345.0	345.6	345.1
165°	317.4	320.8	324.9	327.8	330.1	332.3	331.8	331.2
167.5°	310.6	313.3	316.5	318.2	319.4	320.8	320.7	320.3
170°	306.5	308.2	310.5	312.3	313.4	314.0	313.4	313.4
172.5°	302.8	304.1	305.5	306.7	307.4	308.0	307.4	306.5
175°	297.8	298.4	299.5	299.5	299.5	300.7	299.5	298.4
177.5°	294.6	295.1	295.1	295.5	295.1	295.5	294.6	293.7
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3

(END OF REPORT)