

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: P332930-840

Luminaire Tested: **S124RDIP-S795D365U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332930-840
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-S795D365U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4563.4 lumens
Efficiency: N/A
Efficacy: 130.4 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

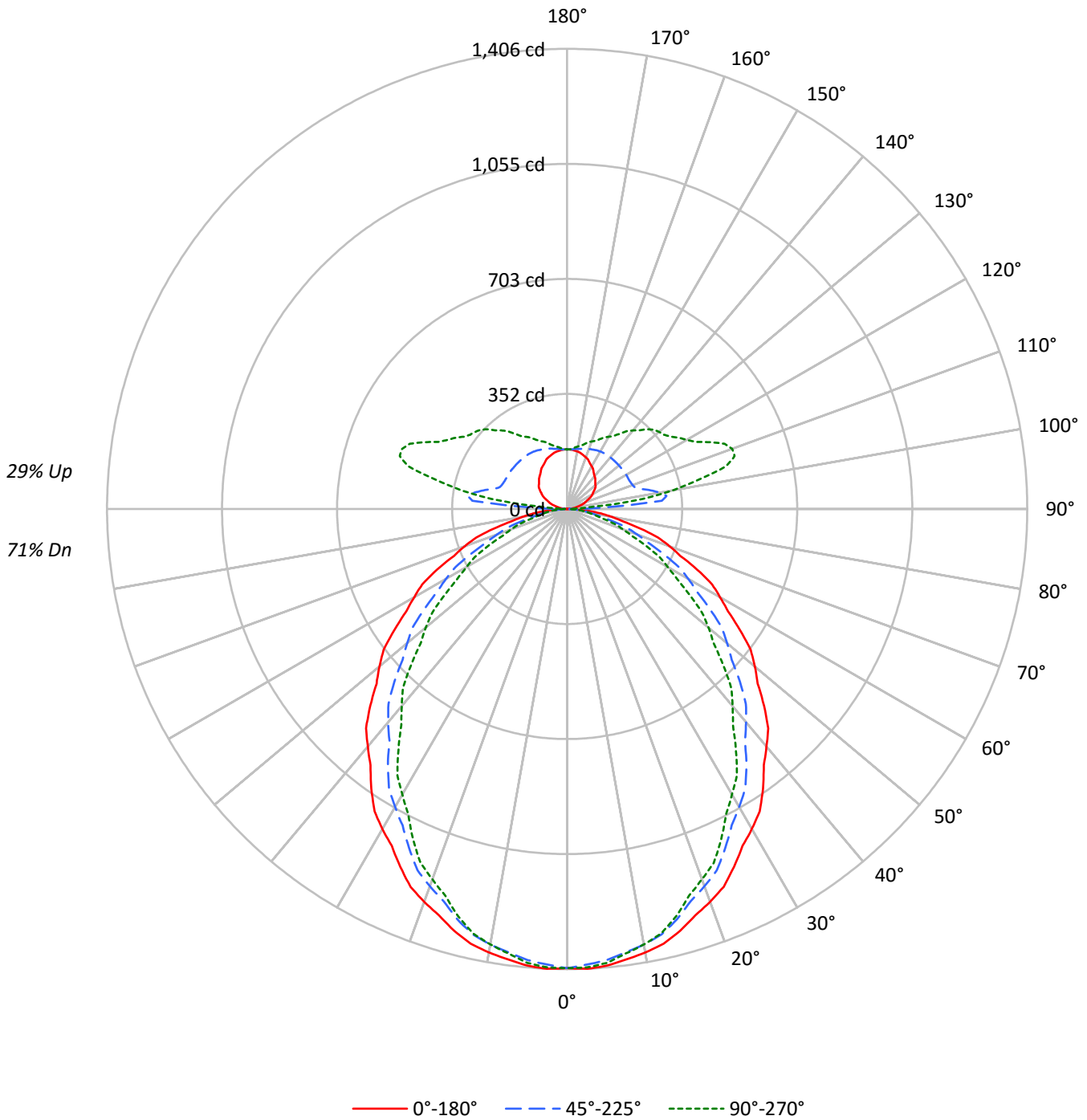
Input Watts (W): 35
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	75	75	75	75	75	75	71		
1	103	99	95	91	97	94	90	87	84	81	79	75	73	72	67	66	65	65	65	65	65	65	65	61		
2	94	87	80	75	89	82	77	72	74	70	66	67	63	60	60	57	55	55	55	55	55	55	55	51		
3	86	76	69	63	81	73	66	61	66	60	56	59	55	52	53	50	47	47	47	47	47	47	47	44		
4	79	68	60	54	75	65	58	52	59	53	48	53	48	45	48	44	41	41	41	41	41	41	41	38		
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	43	39	36	36	36	36	36	36	36	33		
6	67	55	47	41	63	52	45	39	48	41	37	43	38	34	39	35	32	32	32	32	32	32	32	29		
7	62	50	42	36	59	48	40	35	44	37	33	40	34	31	36	32	28	28	28	28	28	28	28	26		
8	58	45	37	32	55	43	36	31	40	34	29	36	31	27	33	29	26	26	26	26	26	26	26	23		
9	54	42	34	29	51	40	33	28	37	31	26	34	28	25	31	26	23	23	23	23	23	23	23	21		
10	51	38	31	26	48	37	30	25	34	28	24	31	26	23	29	24	21	21	21	21	21	21	21	19		

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	2.9
10°-20°	367.5	8.1
20°-30°	530.6	11.6
30°-40°	601.5	13.2
40°-50°	580.8	12.7
50°-60°	483.0	10.6
60°-70°	333.5	7.3
70°-80°	169.1	3.7
80°-90°	44.4	1.0
90°-100°	131.2	2.9
100°-110°	273.1	6.0
110°-120°	244.6	5.4
120°-130°	205.8	4.5
130°-140°	171.6	3.8
140°-150°	131.1	2.9
150°-160°	92.1	2.0
160°-170°	54.2	1.2
170°-180°	17.6	0.4
0°-30°	1029.9	22.6
0°-40°	1631.4	35.7
0°-60°	2695.2	59.1
0°-90°	3242.2	71.0
90°-120°	648.9	14.2
90°-150°	1157.3	25.4
90°-180°	1321.0	28.9
0°-180°	4563.4	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°	0	3	6	7	8	3
95°	12	37	291	144	87	13
105°	42	60	234	504	502	45
115°	74	92	209	401	482	73
125°	102	122	208	341	385	91
135°	122	145	206	303	344	94
145°	140	161	205	256	281	88
155°	160	172	199	226	235	74
165°	174	179	191	202	205	49
175°	181	182	183	186	185	17
180°	182	182	182	182	182	



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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°	19.8	18.5	17.2	15.7	14.2	13.3	13.6	13.4	13.3	13.3	13.0
90°	0.4	1.1	2.1	2.5	2.8	2.8	4.9	4.9	5.8	6.5	6.1
92.5°	4.0	6.0	9.3	13.6	18.9	26.3	44.4	72.1	99.1	113.2	94.3
95°	11.8	12.8	16.5	21.1	29.6	44.6	75.6	134.2	219.5	290.8	299.1
97.5°	21.1	21.1	24.2	28.5	35.9	48.4	72.3	120.7	205.4	306.4	375.8
100°	27.2	27.2	29.6	33.9	40.7	52.1	73.2	113.5	186.3	287.0	378.3
102.5°	32.8	33.4	35.6	39.6	46.2	57.0	76.0	111.5	173.5	262.7	356.9
105°	41.8	42.8	44.6	48.9	55.3	65.6	82.8	112.4	162.4	234.1	318.0
107.5°	51.6	52.3	54.1	58.7	64.8	75.0	90.7	117.8	160.4	218.1	286.6
110°	58.2	58.9	60.7	64.9	71.4	81.0	96.7	121.7	161.0	212.7	270.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	64.4	65.1	67.3	71.2	77.7	87.3	102.4	126.0	162.7	210.2	262.1
115°	73.5	74.6	77.1	80.7	87.5	97.0	111.4	132.8	165.9	208.8	253.8
117.5°	82.9	83.9	86.1	90.1	96.4	106.4	120.0	139.7	169.5	208.4	250.0
120°	89.3	90.0	92.4	96.3	102.4	112.4	126.0	144.5	172.1	208.4	248.0
122.5°	94.9	95.6	98.2	101.8	108.5	118.2	131.7	149.2	174.6	208.1	245.8
125°	102.4	103.8	106.0	110.0	116.7	126.7	139.6	155.9	178.4	207.7	242.0
127.5°	109.1	110.2	112.8	117.2	124.3	134.4	146.8	161.9	181.6	206.9	236.9
130°	112.8	114.2	117.0	122.4	129.2	139.6	151.7	165.6	183.8	206.6	233.8
132.5°	116.5	117.6	121.4	126.4	133.8	143.5	155.7	169.4	185.8	206.4	231.0
135°	121.7	123.1	126.7	132.8	140.3	149.6	161.3	174.2	188.8	205.9	226.6
137.5°	126.9	128.3	132.2	137.9	145.7	154.6	165.6	177.6	190.6	205.9	223.0
140°	130.7	131.7	135.6	141.7	149.2	157.7	168.4	179.9	192.0	205.6	221.0
142.5°	134.6	135.7	139.4	145.1	152.3	160.6	171.1	181.6	193.2	205.6	219.2
145°	140.3	141.4	144.9	149.9	156.7	164.5	173.8	183.5	193.8	204.9	216.3
147.5°	146.6	146.9	150.2	155.2	160.9	167.9	176.6	185.1	194.2	203.6	213.7
150°	150.6	151.0	153.8	158.1	163.5	170.3	178.1	185.9	194.2	202.7	211.7
152.5°	154.3	154.4	157.2	161.3	166.0	172.3	179.3	186.5	193.6	201.3	209.3
155°	159.6	159.9	162.1	165.6	169.6	174.9	181.0	187.0	192.8	199.1	205.9
157.5°	164.6	164.6	166.6	169.4	172.8	177.0	182.2	187.0	191.8	196.9	202.5
160°	167.7	167.7	169.2	171.7	174.5	178.4	182.8	187.0	191.0	195.2	199.9
162.5°	170.6	170.4	171.5	173.7	176.2	179.4	183.3	187.0	190.1	193.5	197.6
165°	173.8	173.8	174.5	176.3	178.1	180.3	183.5	186.3	188.4	191.0	193.8
167.5°	177.0	176.6	177.0	178.3	179.4	181.1	183.4	185.4	186.7	188.3	190.4
170°	178.4	178.1	178.4	179.6	180.3	181.3	183.1	184.9	185.6	186.6	188.1
172.5°	179.9	179.6	179.6	180.4	180.8	181.6	182.8	184.3	184.5	184.9	186.1
175°	181.3	181.0	181.0	181.3	181.7	181.7	182.4	183.5	183.1	183.1	183.8
177.5°	182.0	181.7	181.4	181.7	181.7	181.7	182.0	182.5	182.0	182.0	182.3
180°	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7



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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°	12.9	12.8	12.7	12.7	12.9	13.2	13.3	13.5
90°	6.5	6.8	7.2	7.2	7.5	7.9	7.5	7.5
92.5°	70.1	52.7	42.0	34.8	30.6	28.7	27.5	27.5
95°	264.5	209.1	161.3	126.7	109.2	98.2	91.7	87.1
97.5°	390.7	370.2	335.3	298.0	272.4	251.0	240.2	232.8
100°	430.4	437.6	420.1	393.6	362.6	340.8	330.1	327.3
102.5°	428.5	463.8	468.9	457.9	438.9	423.1	411.8	409.5
105°	399.7	461.5	496.9	511.5	512.2	509.3	504.3	502.2
107.5°	359.0	424.7	474.4	506.3	523.9	532.1	535.6	536.5
110°	334.5	396.2	448.0	487.2	512.5	527.6	533.9	537.1



TEST NUMBER: P332930-840

CATALOG NUMBER: S124RDIP-S795D365U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	316.4	371.0	419.9	459.2	488.0	506.1	515.1	520.3
115°	298.4	342.2	384.1	418.3	446.5	467.9	479.4	482.2
117.5°	289.5	325.9	358.7	387.8	411.8	429.8	441.3	443.5
120°	285.5	318.7	347.3	372.6	392.9	408.7	418.0	421.9
122.5°	282.1	314.2	340.1	362.3	379.5	392.9	400.8	404.8
125°	276.3	306.9	331.5	351.2	365.5	375.9	382.6	384.8
127.5°	269.1	298.4	323.1	341.6	356.0	365.2	370.9	373.0
130°	263.4	291.6	315.9	334.8	349.4	358.3	364.1	366.2
132.5°	257.4	283.9	307.6	326.5	340.8	350.9	356.4	358.5
135°	249.1	272.4	294.1	311.9	326.2	336.2	341.9	344.1
137.5°	241.7	261.3	279.6	295.7	309.1	318.9	323.7	326.2
140°	237.3	254.1	270.1	285.2	297.7	305.5	310.5	313.4
142.5°	233.4	248.1	261.9	274.9	286.0	293.3	297.7	299.6
145°	227.7	239.8	250.5	260.5	269.4	275.5	279.1	280.8
147.5°	223.1	232.7	241.3	249.1	255.7	260.9	263.6	264.3
150°	220.3	228.4	235.6	242.0	247.7	252.4	254.5	254.8
152.5°	217.1	224.2	230.8	236.0	240.9	244.6	245.9	246.3
155°	212.4	218.0	223.4	227.7	231.3	234.1	235.2	235.2
157.5°	207.3	212.1	216.6	220.0	222.7	224.9	225.5	225.5
160°	204.2	208.0	212.0	214.9	217.0	219.1	219.5	219.5
162.5°	201.1	204.4	207.4	210.1	211.6	213.7	214.1	213.8
165°	196.6	198.8	201.3	203.1	204.5	205.9	205.6	205.2
167.5°	192.5	194.1	196.1	197.1	197.8	198.8	198.7	198.4
170°	189.9	191.0	192.4	193.5	194.2	194.5	194.2	194.2
172.5°	187.6	188.3	189.2	190.1	190.5	190.8	190.5	189.9
175°	184.5	184.9	185.6	185.6	185.6	186.3	185.6	184.9
177.5°	182.5	182.8	182.8	183.1	182.8	183.1	182.5	182.0
180°	181.7	181.7	181.7	181.7	181.7	181.7	181.7	181.7

(END OF REPORT)