

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: P242753

Luminaire Tested: **S124RDR-S795D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242753  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDR-S795D930-X4F0-XX-UDD-A-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2557.7 lumens  
Efficiency: N/A  
Efficacy: 97.3 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39  
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')  
CIE Type: Direct

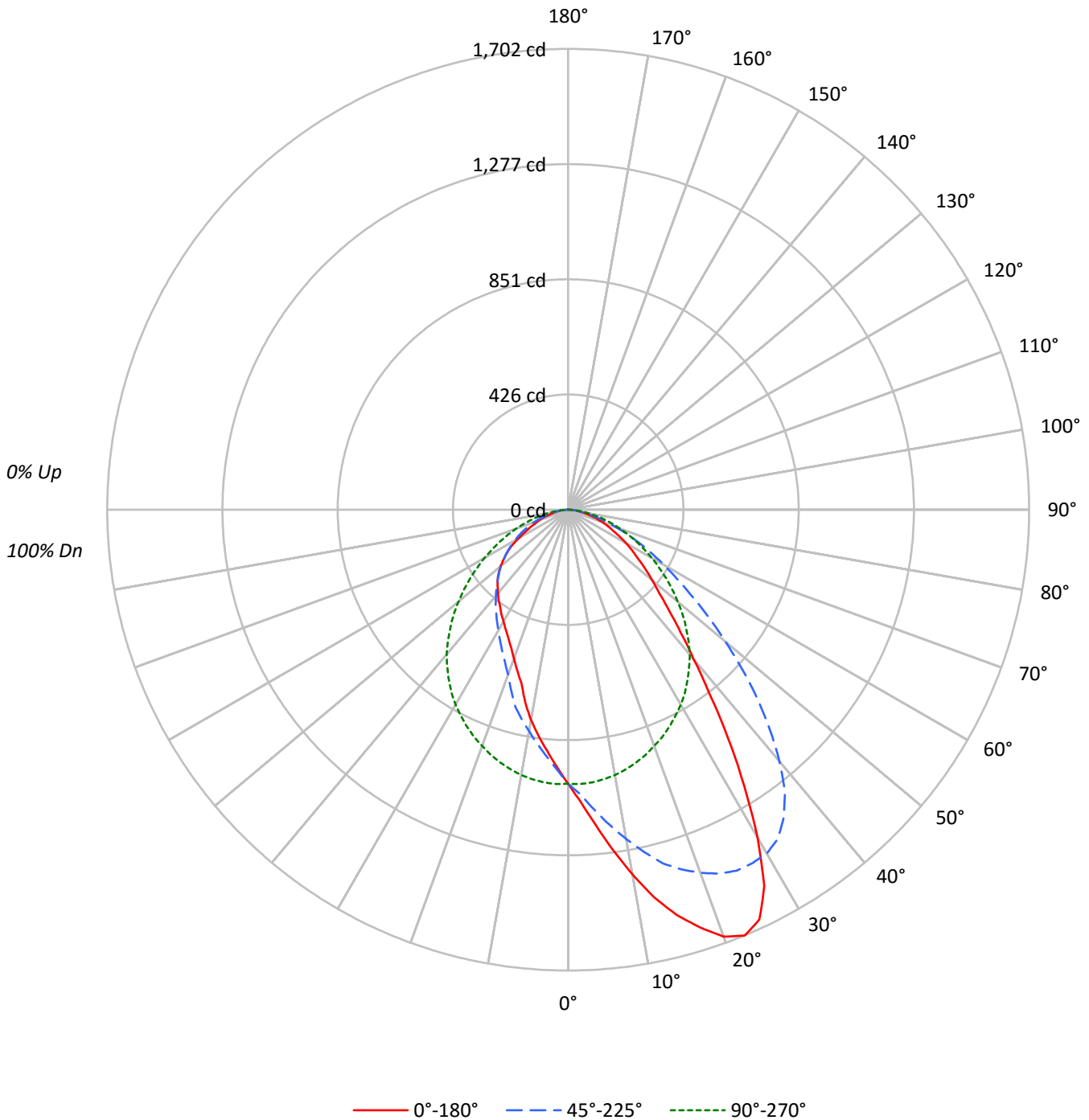
Input Watts (W): 26.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28

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

	0°	90°	180°
0°	8994	8994	8994
5°	10432	9021	7973
10°	12341	8982	7116
15°	14256	8898	6115
20°	15872	8784	5530
25°	16385	8672	5133
30°	14343	8536	4896
35°	11165	8334	4751
40°	8372	8103	4674
45°	6611	7732	4632
50°	5581	7306	4498
55°	4865	6836	4259
60°	4377	6348	3769
65°	3857	5822	3241
70°	3475	5276	2924
75°	2912	4678	2493
80°	2462	3988	2339
85°	2081	3121	2081



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.0	3.8
10°-20°	295.9	11.6
20°-30°	463.4	18.1
30°-40°	514.6	20.1
40°-50°	456.1	17.8
50°-60°	355.4	13.9
60°-70°	232.5	9.1
70°-80°	114.1	4.5
80°-90°	27.8	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	857.3	33.5
0°-40°	1371.9	53.6
0°-60°	2183.4	85.4
0°-90°	2557.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2557.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1012	1012	1012	1012	1012	
5°	1169	1113	1011	915	894	118
15°	1549	1353	967	753	664	441
25°	1671	1471	884	576	523	746
35°	1029	1387	768	463	438	644
45°	526	989	615	368	368	415
55°	314	559	441	278	275	285
65°	183	287	277	180	154	184
75°	85	109	136	87	73	93
85°	20	22	31	22	20	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8
2.5°	1081.1	1084.8	1081.1	1080.7	1076.6	1075.4	1073.8	1068.5	1058.7	1053.0	1054.2
5°	1169.1	1179.3	1173.6	1172.8	1163.8	1154.9	1149.2	1136.1	1122.3	1112.9	1105.1
7.5°	1267.0	1273.1	1269.0	1264.5	1249.0	1244.2	1230.7	1215.2	1192.0	1174.4	1158.5
10°	1367.3	1372.2	1370.5	1359.9	1349.3	1327.7	1315.5	1291.4	1260.0	1235.2	1211.9
12.5°	1465.9	1471.2	1453.7	1456.9	1434.5	1418.6	1397.4	1365.6	1328.1	1294.3	1263.7
15°	1549.1	1542.6	1542.6	1534.4	1512.0	1488.3	1468.4	1436.6	1390.9	1352.6	1312.2
17.5°	1617.6	1620.4	1617.2	1596.4	1580.1	1556.0	1520.1	1483.8	1444.3	1392.9	1353.0
20°	1677.9	1677.9	1674.2	1661.2	1638.3	1612.3	1572.7	1532.4	1478.6	1426.8	1380.3
22.5°	1702.4	1704.0	1699.5	1689.3	1669.3	1644.1	1611.9	1570.7	1514.8	1454.9	1394.6
25°	1670.6	1678.3	1679.1	1676.3	1670.1	1654.7	1625.7	1583.7	1534.0	1470.8	1408.8
27.5°	1567.8	1578.0	1582.1	1591.1	1607.8	1613.9	1610.2	1582.1	1534.0	1471.6	1410.1
30°	1397.4	1405.6	1432.1	1466.7	1493.6	1518.1	1539.3	1545.0	1520.5	1465.9	1400.3
32.5°	1208.3	1220.1	1246.6	1284.5	1333.8	1379.5	1433.7	1462.7	1468.0	1440.6	1381.1
35°	1028.9	1037.1	1061.5	1100.7	1154.5	1216.0	1291.4	1350.1	1390.1	1387.2	1350.1
37.5°	856.9	868.3	893.2	925.4	978.4	1057.0	1128.4	1207.1	1278.8	1313.9	1295.1
40°	721.5	721.9	746.0	779.4	828.3	894.8	974.3	1064.0	1146.3	1213.6	1226.6
42.5°	614.7	614.7	628.6	665.3	697.1	758.6	833.6	922.5	1022.4	1102.7	1142.6
45°	525.9	529.5	542.6	564.2	591.9	644.9	705.6	788.4	896.4	988.6	1046.0
47.5°	455.8	462.3	470.0	489.6	512.4	549.5	601.3	678.7	768.4	870.7	950.2
50°	403.6	404.4	415.0	424.8	443.9	472.1	516.1	578.0	658.8	756.2	847.1
52.5°	358.7	358.3	363.6	376.7	391.3	411.7	445.2	500.2	569.5	654.3	748.9
55°	313.9	315.9	320.8	330.6	342.4	357.9	386.0	428.4	484.7	559.3	644.5
57.5°	279.6	280.9	285.4	289.0	300.4	311.9	334.7	365.3	414.6	477.0	560.5
60°	246.2	246.6	247.9	254.0	262.5	273.1	287.4	312.3	352.2	408.1	470.8
62.5°	213.6	214.4	216.5	220.5	226.7	233.2	248.3	267.0	298.4	344.1	399.1
65°	183.4	183.9	186.7	188.3	193.6	200.2	211.2	224.6	247.4	287.4	330.2
67.5°	158.2	158.2	158.2	160.6	164.7	169.2	176.5	187.9	206.3	232.0	271.9
70°	133.7	133.7	134.5	135.7	137.8	141.5	145.1	153.3	165.9	185.9	214.8
72.5°	110.9	111.3	112.1	112.1	112.9	115.8	118.2	122.7	131.3	145.1	167.1
75°	84.8	86.0	88.1	89.7	91.7	91.3	94.2	97.4	100.3	109.3	122.7
77.5°	66.9	66.0	66.0	67.7	68.1	68.5	70.5	73.4	75.8	80.7	85.6
80°	48.1	48.1	49.3	49.7	49.3	49.7	51.8	53.0	53.8	55.4	59.9
82.5°	33.4	34.2	33.4	33.8	34.2	34.7	36.3	36.3	37.1	37.5	38.7
85°	20.4	20.8	21.2	20.4	20.4	20.4	21.2	21.6	22.4	22.0	22.8
87.5°	9.0	8.6	9.0	9.0	9.4	9.0	9.4	10.2	9.4	9.8	9.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8
2.5°	1050.1	1044.4	1041.5	1035.0	1027.3	1023.2	1019.5	1014.2	1007.3	1000.0	994.7
5°	1095.4	1085.6	1073.3	1058.7	1045.6	1033.0	1022.0	1011.0	998.3	985.3	972.2
7.5°	1140.2	1122.7	1103.9	1081.5	1059.9	1039.9	1022.0	1004.5	984.5	966.5	949.8
10°	1187.5	1161.4	1132.5	1101.9	1071.3	1044.8	1018.7	995.1	969.0	945.8	926.2
12.5°	1225.8	1194.0	1157.7	1117.8	1079.5	1046.0	1015.1	982.4	951.9	926.2	898.5
15°	1269.0	1227.0	1180.1	1134.5	1086.8	1043.2	1002.8	966.9	933.1	897.6	872.8
17.5°	1298.8	1250.3	1194.8	1141.8	1087.2	1036.7	991.0	949.4	910.7	875.2	845.9
20°	1324.9	1269.8	1206.6	1144.3	1081.1	1026.1	975.9	928.6	888.3	849.1	818.6
22.5°	1339.5	1277.2	1206.6	1140.6	1074.6	1013.8	957.6	907.8	863.0	823.9	789.2
25°	1340.4	1275.1	1204.6	1129.6	1057.9	994.7	937.6	884.2	835.3	796.1	760.3
27.5°	1337.1	1261.7	1190.7	1114.5	1040.7	973.5	914.4	857.7	809.2	767.6	730.9
30°	1327.3	1245.0	1167.5	1087.6	1012.6	948.6	885.4	831.6	780.7	737.0	699.9
32.5°	1306.1	1224.6	1139.8	1057.4	981.2	914.8	855.7	801.4	751.7	706.9	666.9
35°	1276.8	1194.0	1103.5	1019.5	944.9	876.4	820.2	768.0	720.3	672.6	631.0
37.5°	1242.9	1156.5	1067.2	975.1	900.9	835.7	783.1	733.0	686.5	642.9	596.8
40°	1190.7	1113.7	1020.8	929.4	852.8	790.4	742.7	698.3	651.4	608.2	562.2
42.5°	1127.6	1064.8	970.6	878.9	803.5	744.0	700.3	657.1	615.6	574.0	525.5
45°	1055.8	1006.1	918.0	830.0	753.7	694.2	653.5	615.1	577.6	537.7	492.4
47.5°	975.9	939.2	862.6	770.5	699.1	644.5	605.4	573.6	540.5	500.2	459.4
50°	891.9	870.3	797.0	714.6	647.3	598.0	557.7	528.3	501.8	463.5	428.0
52.5°	802.3	793.3	734.2	656.3	591.9	543.8	510.8	485.1	458.2	428.0	395.4
55°	710.9	717.1	664.5	596.4	535.2	494.5	463.1	441.1	418.2	391.3	365.7
57.5°	616.0	639.2	600.1	538.5	479.4	441.1	417.0	397.5	378.3	355.5	332.2
60°	532.4	551.1	531.2	478.6	428.4	393.4	371.4	357.1	337.9	317.6	300.8
62.5°	450.9	471.2	461.5	421.5	375.9	346.9	328.2	315.1	302.1	284.9	267.4
65°	385.2	398.3	392.6	363.2	330.2	304.5	286.6	276.8	263.8	250.7	235.2
67.5°	308.2	333.9	329.8	313.5	281.7	261.3	248.7	239.7	227.5	217.7	206.7
70°	242.6	265.8	265.4	252.7	237.3	218.5	210.3	203.0	192.4	183.0	174.5
72.5°	187.5	208.3	212.4	203.4	194.0	181.0	173.3	168.8	158.6	152.9	146.3
75°	139.0	154.5	158.6	158.6	153.7	146.3	139.4	136.2	128.8	123.1	119.0
77.5°	97.8	108.4	114.5	115.8	116.2	113.3	106.8	104.4	98.7	96.6	92.1
80°	64.4	70.9	78.3	80.7	82.8	81.9	79.5	77.9	72.6	70.5	68.9
82.5°	39.5	42.4	48.1	54.2	53.0	55.8	53.8	52.6	48.9	48.5	46.9
85°	23.2	23.6	24.5	28.1	30.2	31.0	31.4	30.6	29.4	29.4	26.5
87.5°	9.8	9.4	10.2	10.2	10.6	12.2	13.5	13.9	12.6	11.4	10.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8	1011.8
2.5°	989.0	984.9	979.6	973.5	966.1	959.6	956.8	959.2	960.4	957.2	956.8
5°	963.3	953.1	944.9	932.7	922.9	914.8	909.1	906.6	907.4	900.9	899.3
7.5°	934.7	923.7	910.3	896.4	883.4	872.0	865.9	863.0	856.1	853.2	848.7
10°	907.4	891.1	878.1	861.0	845.5	831.2	824.3	818.6	811.6	808.4	801.4
12.5°	879.3	859.7	845.1	827.1	811.2	793.3	786.8	774.9	763.1	755.4	746.0
15°	853.2	830.4	812.9	791.7	772.9	753.3	735.8	716.2	708.9	693.4	684.4
17.5°	822.2	798.6	779.0	751.7	723.6	699.9	680.4	660.0	649.0	638.4	633.9
20°	791.7	770.5	740.3	707.3	675.1	648.2	633.1	620.9	608.6	601.7	596.8
22.5°	762.7	734.2	697.9	661.6	629.4	609.8	597.6	585.0	575.6	569.1	562.2
25°	729.7	694.2	657.1	616.4	594.4	576.0	562.2	552.0	545.8	537.3	534.0
27.5°	697.5	654.7	612.7	585.0	562.2	544.6	532.0	524.6	516.5	510.8	506.3
30°	659.2	615.6	578.9	552.8	529.5	515.7	505.9	496.9	490.8	486.3	483.1
32.5°	621.3	577.6	548.3	519.8	502.6	489.2	478.6	472.5	468.0	461.9	460.2
35°	585.0	546.3	519.3	494.1	475.3	463.1	454.9	448.0	443.9	442.3	441.1
37.5°	549.5	517.3	487.6	467.2	449.6	440.3	429.7	426.4	423.5	419.9	421.5
40°	516.1	486.3	460.6	438.6	425.2	414.6	408.9	404.8	402.4	402.4	402.4
42.5°	487.1	458.2	433.3	414.2	400.7	392.2	385.6	382.4	382.0	381.6	384.0
45°	457.0	430.1	404.8	388.5	377.1	368.1	364.4	361.6	361.6	363.2	363.6
47.5°	426.8	401.5	381.2	362.4	351.8	346.1	342.8	341.2	341.2	343.2	344.9
50°	399.5	374.6	354.7	338.4	328.6	323.3	320.4	319.6	320.4	320.4	323.3
52.5°	369.7	348.1	328.6	315.5	304.1	299.2	298.0	296.8	297.2	298.8	299.6
55°	340.8	320.8	302.1	289.0	280.9	277.6	273.9	274.3	273.5	274.3	274.3
57.5°	311.4	293.9	275.6	265.0	258.0	253.2	249.1	250.3	249.1	249.1	248.7
60°	283.3	263.8	249.9	240.5	232.4	228.3	224.6	225.4	224.2	223.4	221.8
62.5°	252.7	237.3	224.2	215.2	209.1	204.2	200.6	199.3	196.1	192.8	188.7
65°	223.4	209.9	198.1	189.6	183.4	179.8	176.9	174.5	168.4	161.8	158.6
67.5°	194.4	184.7	173.3	165.9	161.0	156.1	150.8	146.3	140.2	136.2	134.1
70°	166.7	157.4	148.0	141.0	135.7	131.3	125.1	122.3	118.2	116.6	114.5
72.5°	140.2	131.7	123.1	117.0	111.3	108.0	103.5	100.7	99.5	99.1	97.0
75°	113.3	106.4	99.9	94.2	89.7	87.2	85.2	83.2	82.3	78.7	76.6
77.5°	87.2	82.3	78.3	73.8	70.9	69.3	64.8	62.0	60.3	58.3	57.9
80°	64.4	61.1	57.1	54.6	50.1	48.5	46.9	46.5	46.1	45.7	45.2
82.5°	44.4	41.2	37.1	35.9	35.5	34.7	33.8	33.4	33.0	33.4	33.4
85°	24.5	22.8	22.8	22.4	22.0	21.6	21.2	21.2	20.8	21.2	20.8
87.5°	10.2	9.8	9.8	9.0	9.4	9.4	9.0	9.0	9.4	8.6	8.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P242753

CATALOG NUMBER: S124RDR-S795D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1011.8	1011.8	1011.8	1011.8
2.5°	954.3	955.1	952.3	951.5
5°	896.0	895.2	893.2	893.6
7.5°	845.5	842.6	844.7	841.4
10°	799.8	795.3	791.7	788.4
12.5°	737.4	733.8	728.5	730.5
15°	679.1	673.0	663.2	664.5
17.5°	627.0	627.8	622.1	623.7
20°	588.2	585.4	585.8	584.6
22.5°	561.3	557.7	554.0	551.1
25°	530.4	527.9	524.2	523.4
27.5°	503.0	502.6	501.0	499.0
30°	479.8	479.0	478.2	477.0
32.5°	459.0	458.6	457.8	458.2
35°	439.4	439.0	438.2	437.8
37.5°	421.1	422.3	421.5	421.5
40°	401.9	402.4	403.2	402.8
42.5°	386.0	386.0	387.3	385.6
45°	366.5	368.9	368.5	368.5
47.5°	345.7	348.5	348.9	348.9
50°	325.3	324.5	325.7	325.3
52.5°	300.4	300.8	300.4	300.0
55°	274.8	275.2	274.3	274.8
57.5°	247.4	245.8	247.0	246.2
60°	217.7	214.4	213.6	212.0
62.5°	184.3	182.2	179.0	181.0
65°	155.3	153.7	152.5	154.1
67.5°	132.1	131.3	131.3	130.4
70°	114.5	113.3	113.3	112.5
72.5°	96.6	95.4	95.8	95.4
75°	74.2	72.2	72.2	72.6
77.5°	57.9	57.5	58.3	57.1
80°	45.2	44.8	44.4	45.7
82.5°	32.6	32.6	32.6	34.2
85°	21.2	20.4	21.2	20.4
87.5°	9.4	9.0	8.6	9.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)