

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: P242738

Luminaire Tested: **S124RDR-S795D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242738
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-S795D830-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2956.8 lumens
Efficiency: N/A
Efficacy: 112.4 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

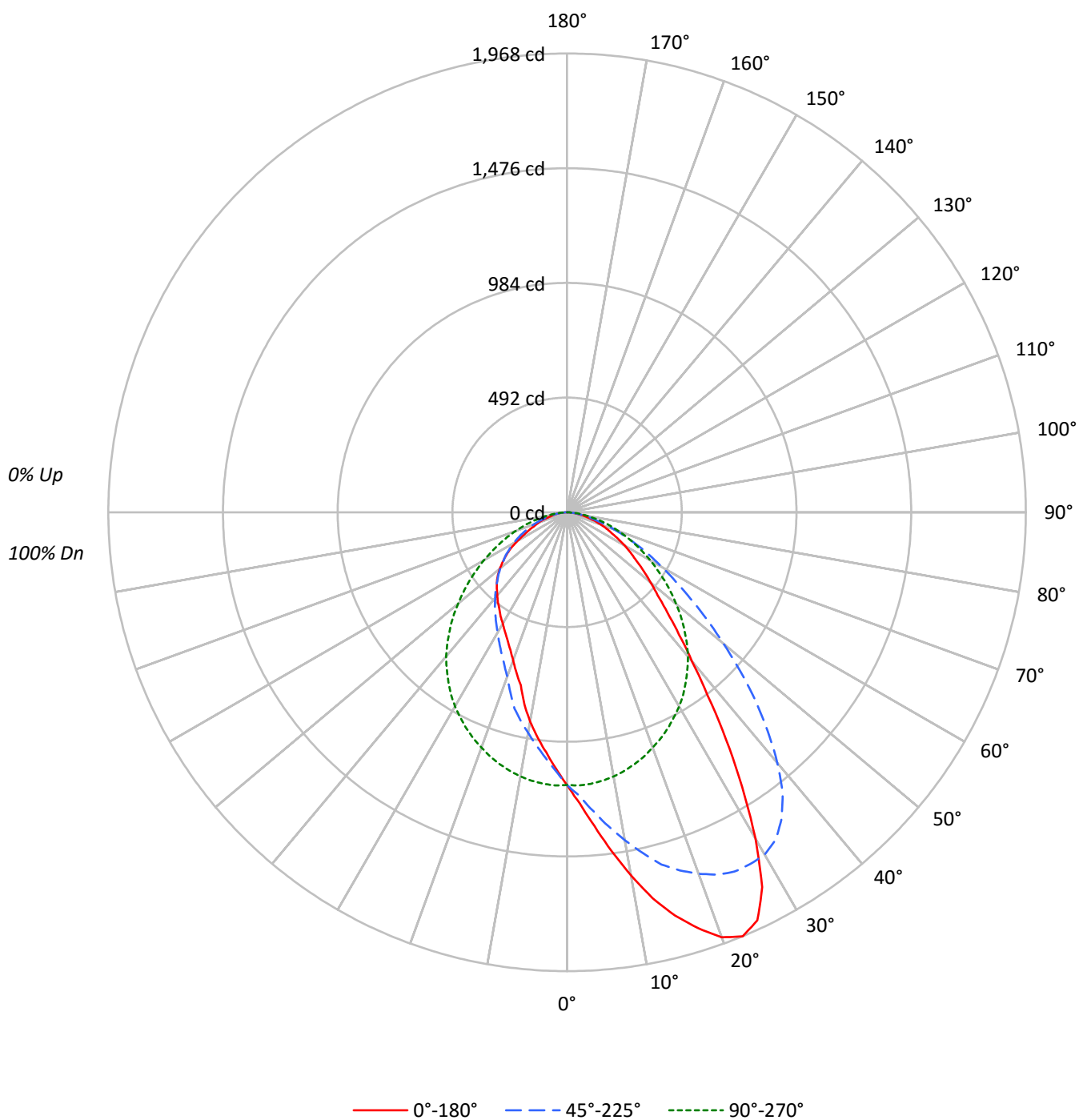
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	110	106	102	98		107	103	100	97		99	96	94		95	93	91		92	90	88
2	101	93	87	82		98	92	86	81		88	83	79		85	81	77		82	79	76
3	93	83	76	70		90	81	75	69		79	73	68		76	71	67		73	69	65
4	85	74	66	60		83	73	65	59		71	64	59		68	63	58		66	61	57
5	79	67	58	52		77	66	58	52		64	57	51		62	56	51		60	55	50
6	73	61	52	46		71	60	52	46		58	51	46		56	50	45		55	49	45
7	68	55	47	41		66	54	47	41		53	46	41		52	45	40		50	44	40
8	64	51	42	37		62	50	42	37		49	42	37		47	41	36		46	40	36
9	59	47	39	33		58	46	38	33		45	38	33		44	38	33		43	37	33
10	56	43	35	30		55	43	35	30		42	35	30		41	34	30		40	34	30

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10397	10397	10397
5°	12060	10429	9217
10°	14267	10384	8226
15°	16480	10287	7069
20°	18349	10156	6393
25°	18942	10026	5935
30°	16582	9868	5660
35°	12908	9635	5492
40°	9680	9368	5403
45°	7642	8940	5355
50°	6452	8447	5201
55°	5624	7902	4922
60°	5060	7339	4357
65°	4461	6731	3746
70°	4018	6100	3381
75°	3366	5406	2881
80°	2846	4607	2703
85°	2407	3600	2407

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.3	3.8
10°-20°	342.0	11.6
20°-30°	535.8	18.1
30°-40°	595.0	20.1
40°-50°	527.2	17.8
50°-60°	410.9	13.9
60°-70°	268.8	9.1
70°-80°	131.9	4.5
80°-90°	32.1	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°	991.1	33.5
0°-40°	1586.0	53.6
0°-60°	2524.1	85.4
0°-90°	2956.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2956.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1170	1170	1170	1170	1170	
5°	1352	1287	1169	1058	1033	136
15°	1791	1564	1118	871	768	509
25°	1931	1700	1022	666	605	862
35°	1190	1604	888	535	506	744
45°	608	1143	711	426	426	479
55°	363	647	510	321	318	330
65°	212	332	320	208	178	213
75°	98	126	157	101	84	108
85°	24	25	35	25	24	27
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°	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7
2.5°	1249.8	1254.1	1249.8	1249.3	1244.6	1243.2	1241.3	1235.2	1223.9	1217.3	1218.7
5°	1351.6	1363.4	1356.8	1355.9	1345.5	1335.1	1328.5	1313.4	1297.4	1286.6	1277.6
7.5°	1464.7	1471.8	1467.1	1461.9	1444.0	1438.3	1422.8	1404.9	1378.0	1357.7	1339.4
10°	1580.6	1586.3	1584.4	1572.2	1559.9	1534.9	1520.8	1493.0	1456.7	1428.0	1401.1
12.5°	1694.7	1700.8	1680.6	1684.3	1658.4	1640.0	1615.5	1578.8	1535.4	1496.3	1460.9
15°	1790.8	1783.3	1783.3	1773.9	1748.0	1720.6	1697.5	1660.8	1608.0	1563.7	1517.0
17.5°	1870.0	1873.3	1869.5	1845.5	1826.7	1798.8	1757.4	1715.4	1669.7	1610.3	1564.2
20°	1939.8	1939.8	1935.5	1920.4	1894.0	1863.9	1818.2	1771.5	1709.3	1649.5	1595.7
22.5°	1968.0	1969.9	1964.7	1953.0	1929.9	1900.6	1863.4	1815.8	1751.2	1682.0	1612.2
25°	1931.3	1940.2	1941.2	1937.9	1930.8	1912.9	1879.4	1830.9	1773.4	1700.4	1628.7
27.5°	1812.5	1824.3	1829.0	1839.4	1858.7	1865.8	1861.5	1829.0	1773.4	1701.3	1630.1
30°	1615.5	1624.9	1655.6	1695.6	1726.7	1755.0	1779.5	1786.1	1757.8	1694.7	1618.8
32.5°	1396.9	1410.5	1441.2	1485.0	1542.0	1594.8	1657.5	1690.9	1697.1	1665.5	1596.7
35°	1189.5	1198.9	1227.2	1272.4	1334.6	1405.8	1493.0	1560.9	1607.0	1603.7	1560.9
37.5°	990.6	1003.8	1032.6	1069.8	1131.1	1222.0	1304.5	1395.4	1478.4	1518.9	1497.2
40°	834.2	834.6	862.4	901.1	957.6	1034.4	1126.3	1230.0	1325.2	1403.0	1418.1
42.5°	710.7	710.7	726.7	769.1	805.9	877.0	963.8	1066.5	1182.0	1274.8	1321.0
45°	607.9	612.2	627.3	652.2	684.3	745.6	815.8	911.4	1036.3	1142.8	1209.3
47.5°	526.9	534.4	543.4	566.0	592.4	635.3	695.1	784.7	888.3	1006.6	1098.5
50°	466.6	467.5	479.8	491.1	513.2	545.7	596.6	668.3	761.6	874.2	979.3
52.5°	414.7	414.2	420.4	435.5	452.4	476.0	514.6	578.3	658.4	756.4	865.7
55°	362.9	365.2	370.9	382.2	395.9	413.8	446.3	495.3	560.3	646.6	745.1
57.5°	323.3	324.7	329.9	334.1	347.3	360.5	386.9	422.3	479.3	551.4	648.0
60°	284.6	285.1	286.5	293.6	303.5	315.8	332.2	361.0	407.2	471.7	544.3
62.5°	246.9	247.9	250.2	255.0	262.0	269.6	287.0	308.7	345.0	397.8	461.4
65°	212.1	212.5	215.8	217.7	223.9	231.4	244.1	259.7	286.1	332.2	381.7
67.5°	182.9	182.9	182.9	185.7	190.4	195.6	204.1	217.3	238.5	268.2	314.3
70°	154.6	154.6	155.5	156.9	159.3	163.5	167.8	177.2	191.8	214.9	248.4
72.5°	128.2	128.7	129.6	129.6	130.5	133.8	136.7	141.9	151.7	167.8	193.2
75°	98.0	99.4	101.8	103.7	106.0	105.6	108.9	112.6	115.9	126.3	141.9
77.5°	77.3	76.3	76.3	78.2	78.7	79.2	81.5	84.8	87.7	93.3	99.0
80°	55.6	55.6	57.0	57.5	57.0	57.5	59.9	61.3	62.2	64.1	69.3
82.5°	38.6	39.6	38.6	39.1	39.6	40.1	41.9	41.9	42.9	43.4	44.8
85°	23.6	24.0	24.5	23.6	23.6	23.6	24.5	25.0	25.9	25.4	26.4
87.5°	10.4	9.9	10.4	10.4	10.8	10.4	10.8	11.8	10.8	11.3	11.3
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°	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7
2.5°	1214.0	1207.4	1204.1	1196.6	1187.6	1182.9	1178.7	1172.5	1164.5	1156.0	1149.9
5°	1266.3	1255.0	1240.9	1223.9	1208.8	1194.2	1181.5	1168.8	1154.1	1139.1	1124.0
7.5°	1318.2	1297.9	1276.2	1250.3	1225.3	1202.2	1181.5	1161.2	1138.1	1117.4	1098.1
10°	1372.8	1342.7	1309.2	1273.9	1238.5	1207.9	1177.7	1150.4	1120.2	1093.4	1070.7
12.5°	1417.1	1380.4	1338.4	1292.2	1247.9	1209.3	1173.5	1135.8	1100.4	1070.7	1038.7
15°	1467.1	1418.5	1364.3	1311.6	1256.4	1206.0	1159.3	1117.9	1078.7	1037.7	1009.0
17.5°	1501.5	1445.4	1381.3	1320.0	1256.9	1198.4	1145.7	1097.6	1052.8	1011.8	977.9
20°	1531.6	1468.0	1395.0	1322.9	1249.8	1186.2	1128.2	1073.6	1026.9	981.7	946.3
22.5°	1548.6	1476.5	1395.0	1318.6	1242.3	1172.1	1107.0	1049.5	997.7	952.4	912.4
25°	1549.5	1474.1	1392.6	1305.9	1223.0	1149.9	1083.9	1022.2	965.6	920.4	878.9
27.5°	1545.8	1458.6	1376.6	1288.5	1203.2	1125.4	1057.1	991.6	935.5	887.4	845.0
30°	1534.5	1439.3	1349.7	1257.4	1170.6	1096.7	1023.6	961.4	902.5	852.1	809.2
32.5°	1510.0	1415.7	1317.7	1222.5	1134.4	1057.5	989.2	926.5	869.0	817.2	771.0
35°	1476.0	1380.4	1275.7	1178.7	1092.4	1013.2	948.2	887.9	832.7	777.6	729.5
37.5°	1436.9	1337.0	1233.8	1127.3	1041.5	966.1	905.3	847.3	793.6	743.2	689.9
40°	1376.6	1287.5	1180.1	1074.5	985.9	913.8	858.7	807.3	753.1	703.1	649.9
42.5°	1303.5	1231.0	1122.1	1016.1	928.9	860.1	809.6	759.7	711.6	663.6	607.5
45°	1220.6	1163.1	1061.3	959.5	871.4	802.6	755.5	711.2	667.8	621.6	569.3
47.5°	1128.2	1085.8	997.2	890.7	808.2	745.1	699.8	663.1	624.9	578.3	531.1
50°	1031.1	1006.2	921.3	826.1	748.4	691.4	644.7	610.8	580.1	535.8	494.8
52.5°	927.5	917.1	848.8	758.7	684.3	628.7	590.5	560.8	529.7	494.8	457.1
55°	821.9	829.0	768.2	689.5	618.8	571.7	535.4	509.9	483.5	452.4	422.7
57.5°	712.1	739.0	693.7	622.6	554.2	509.9	482.1	459.5	437.3	410.9	384.1
60°	615.5	637.2	614.1	553.3	495.3	454.8	429.3	412.8	390.7	367.1	347.8
62.5°	521.2	544.8	533.5	487.3	434.5	401.1	379.4	364.3	349.2	329.4	309.2
65°	445.4	460.4	453.8	419.9	381.7	352.0	331.3	320.0	304.9	289.8	271.9
67.5°	356.3	386.0	381.3	362.4	325.6	302.1	287.5	277.1	263.0	251.7	238.9
70°	280.4	307.3	306.8	292.2	274.3	252.6	243.2	234.7	222.4	211.6	201.7
72.5°	216.8	240.8	245.5	235.2	224.3	209.2	200.3	195.1	183.3	176.7	169.2
75°	160.7	178.6	183.3	183.3	177.7	169.2	161.2	157.4	148.9	142.3	137.6
77.5°	113.1	125.4	132.4	133.8	134.3	131.0	123.5	120.6	114.0	111.7	106.5
80°	74.5	82.0	90.5	93.3	95.7	94.7	91.9	90.0	83.9	81.5	79.6
82.5°	45.7	49.0	55.6	62.7	61.3	64.6	62.2	60.8	56.6	56.1	54.2
85°	26.9	27.3	28.3	32.5	34.9	35.8	36.3	35.3	33.9	33.9	30.6
87.5°	11.3	10.8	11.8	11.8	12.3	14.1	15.6	16.0	14.6	13.2	11.8
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7	1169.7
2.5°	1143.3	1138.6	1132.5	1125.4	1116.9	1109.4	1106.1	1108.9	1110.3	1106.5	1106.1
5°	1113.6	1101.8	1092.4	1078.3	1067.0	1057.5	1050.9	1048.1	1049.1	1041.5	1039.6
7.5°	1080.6	1067.9	1052.4	1036.3	1021.2	1008.1	1001.0	997.7	989.7	986.4	981.2
10°	1049.1	1030.2	1015.1	995.3	977.4	960.9	952.9	946.3	938.3	934.5	926.5
12.5°	1016.5	993.9	976.9	956.2	937.8	917.1	909.6	895.9	882.2	873.3	862.4
15°	986.4	960.0	939.7	915.2	893.5	870.9	850.6	828.0	819.5	801.6	791.3
17.5°	950.6	923.2	900.6	869.0	836.5	809.2	786.6	763.0	750.3	738.0	732.8
20°	915.2	890.7	855.8	817.7	780.4	749.3	731.9	717.7	703.6	695.6	689.9
22.5°	881.8	848.8	806.8	764.9	727.6	705.0	690.9	676.3	665.4	657.9	649.9
25°	843.6	802.6	759.7	712.6	687.1	665.9	649.9	638.1	631.0	621.1	617.4
27.5°	806.3	756.9	708.3	676.3	649.9	629.6	615.0	606.5	597.1	590.5	585.3
30°	762.0	711.6	669.2	639.0	612.2	596.2	584.8	574.5	567.4	562.2	558.5
32.5°	718.2	667.8	633.9	600.9	581.1	565.5	553.3	546.2	541.0	534.0	532.1
35°	676.3	631.5	600.4	571.2	549.5	535.4	525.9	517.9	513.2	511.3	509.9
37.5°	635.3	598.0	563.6	540.1	519.8	509.0	496.7	493.0	489.7	485.4	487.3
40°	596.6	562.2	532.5	507.1	491.5	479.3	472.7	468.0	465.1	465.1	465.1
42.5°	563.2	529.7	501.0	478.8	463.3	453.4	445.8	442.1	441.6	441.1	443.9
45°	528.3	497.2	468.0	449.1	435.9	425.6	421.3	418.0	418.0	419.9	420.4
47.5°	493.4	464.2	440.6	419.0	406.7	400.1	396.3	394.5	394.5	396.8	398.7
50°	461.8	433.1	410.0	391.2	379.8	373.7	370.4	369.5	370.4	370.4	373.7
52.5°	427.4	402.5	379.8	364.8	351.6	345.9	344.5	343.1	343.6	345.4	346.4
55°	394.0	370.9	349.2	334.1	324.7	320.9	316.7	317.2	316.2	317.2	317.2
57.5°	360.1	339.8	318.6	306.3	298.3	292.7	287.9	289.4	287.9	287.9	287.5
60°	327.5	304.9	288.9	278.1	268.6	263.9	259.7	260.6	259.2	258.3	256.4
62.5°	292.2	274.3	259.2	248.8	241.8	236.1	231.9	230.5	226.7	222.9	218.2
65°	258.3	242.7	229.0	219.1	212.1	207.8	204.5	201.7	194.6	187.1	183.3
67.5°	224.8	213.5	200.3	191.8	186.2	180.5	174.4	169.2	162.1	157.4	155.0
70°	192.8	181.9	171.1	163.1	156.9	151.7	144.7	141.4	136.7	134.8	132.4
72.5°	162.1	152.2	142.3	135.3	128.7	124.9	119.7	116.4	115.0	114.5	112.2
75°	131.0	123.0	115.5	108.9	103.7	100.9	98.5	96.1	95.2	91.0	88.6
77.5°	100.9	95.2	90.5	85.3	82.0	80.1	74.9	71.6	69.7	67.4	66.9
80°	74.5	70.7	66.0	63.2	58.0	56.1	54.2	53.7	53.3	52.8	52.3
82.5°	51.4	47.6	42.9	41.5	41.0	40.1	39.1	38.6	38.2	38.6	38.6
85°	28.3	26.4	26.4	25.9	25.4	25.0	24.5	24.5	24.0	24.5	24.0
87.5°	11.8	11.3	11.3	10.4	10.8	10.8	10.4	10.4	10.8	9.9	9.9
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: P242738

CATALOG NUMBER: S124RDR-S795D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1169.7	1169.7	1169.7	1169.7
2.5°	1103.2	1104.2	1100.9	1100.0
5°	1035.9	1034.9	1032.6	1033.0
7.5°	977.4	974.1	976.5	972.7
10°	924.6	919.5	915.2	911.4
12.5°	852.5	848.3	842.2	844.5
15°	785.1	778.1	766.8	768.2
17.5°	724.8	725.8	719.2	721.0
20°	680.0	676.7	677.2	675.8
22.5°	648.9	644.7	640.5	637.2
25°	613.1	610.3	606.1	605.1
27.5°	581.6	581.1	579.2	576.8
30°	554.7	553.7	552.8	551.4
32.5°	530.7	530.2	529.2	529.7
35°	508.0	507.6	506.6	506.1
37.5°	486.8	488.2	487.3	487.3
40°	464.7	465.1	466.1	465.6
42.5°	446.3	446.3	447.7	445.8
45°	423.7	426.5	426.0	426.0
47.5°	399.6	402.9	403.4	403.4
50°	376.1	375.1	376.5	376.1
52.5°	347.3	347.8	347.3	346.9
55°	317.6	318.1	317.2	317.6
57.5°	286.1	284.2	285.6	284.6
60°	251.7	247.9	246.9	245.1
62.5°	213.0	210.7	206.9	209.2
65°	179.6	177.7	176.3	178.1
67.5°	152.7	151.7	151.7	150.8
70°	132.4	131.0	131.0	130.1
72.5°	111.7	110.3	110.7	110.3
75°	85.8	83.4	83.4	83.9
77.5°	66.9	66.4	67.4	66.0
80°	52.3	51.8	51.4	52.8
82.5°	37.7	37.7	37.7	39.6
85°	24.5	23.6	24.5	23.6
87.5°	10.8	10.4	9.9	10.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)