

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: P242748

Luminaire Tested: **S124RDR-S795D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242748
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-S795D840-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3168.0 lumens
Efficiency: N/A
Efficacy: 120.5 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

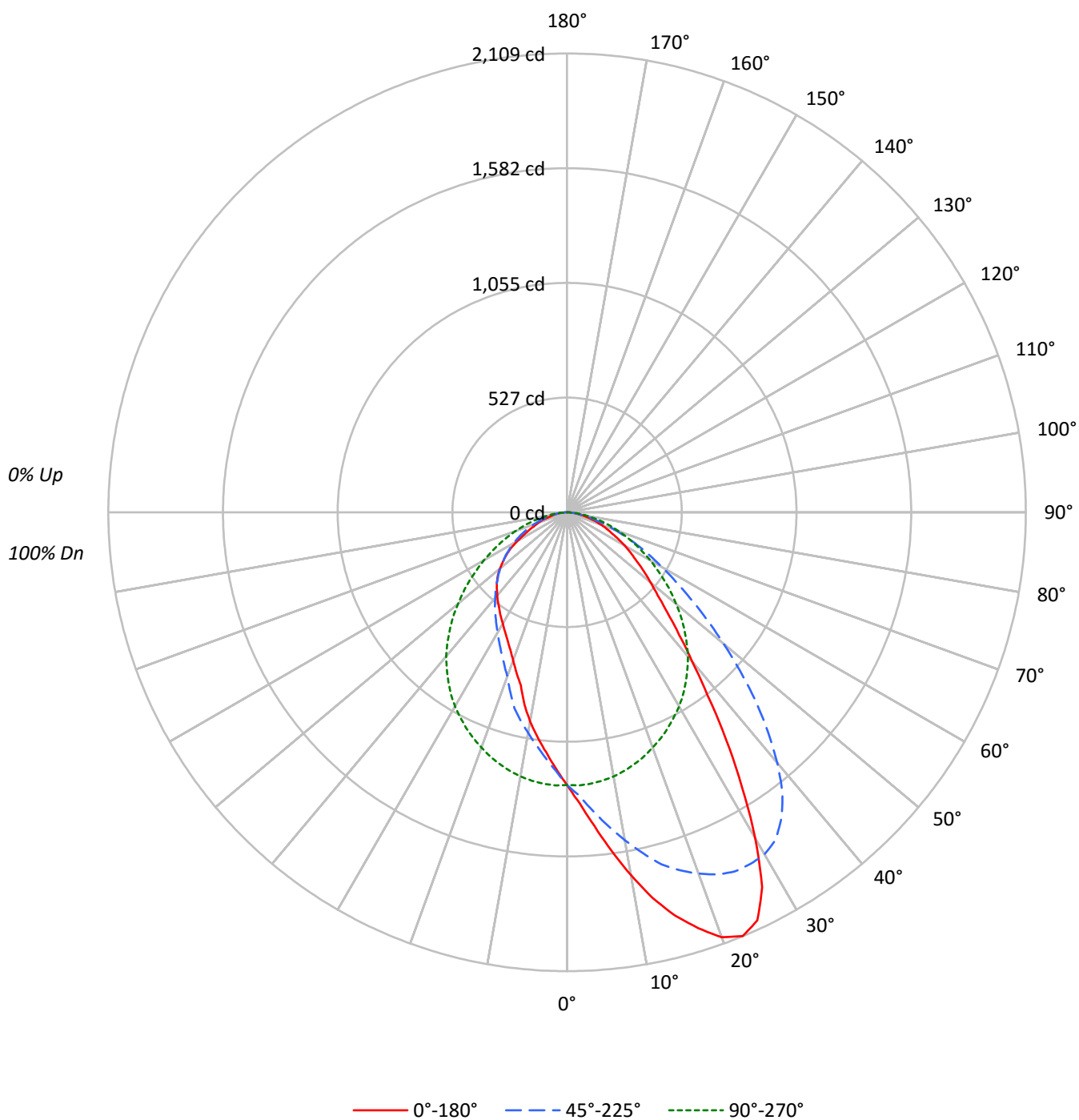
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86		86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74		74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63		63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55		55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48		48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43		43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38		38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34		34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31		31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28		28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	11140	11140	11140
5°	12922	11173	9876
10°	15286	11125	8814
15°	17657	11022	7574
20°	19659	10880	6850
25°	20294	10742	6358
30°	17766	10573	6064
35°	13830	10323	5885
40°	10370	10037	5789
45°	8189	9578	5739
50°	6913	9049	5572
55°	6025	8466	5274
60°	5422	7863	4668
65°	4779	7212	4015
70°	4304	6536	3623
75°	3606	5790	3088
80°	3051	4935	2897
85°	2570	3865	2570

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.3	3.8
10°-20°	366.5	11.6
20°-30°	574.0	18.1
30°-40°	637.5	20.1
40°-50°	564.9	17.8
50°-60°	440.2	13.9
60°-70°	287.9	9.1
70°-80°	141.3	4.5
80°-90°	34.4	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°	1061.8	33.5
0°-40°	1699.3	53.6
0°-60°	2704.4	85.4
0°-90°	3168.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3168.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1253	1253	1253	1253	1253	
5°	1448	1378	1252	1133	1107	146
15°	1919	1675	1198	933	823	546
25°	2069	1822	1095	714	648	924
35°	1274	1718	951	574	542	798
45°	651	1224	762	456	456	514
55°	389	693	546	344	340	353
65°	227	356	343	223	191	228
75°	105	135	169	108	90	115
85°	25	27	38	27	25	29
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°	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2
2.5°	1339.1	1343.6	1339.1	1338.6	1333.5	1332.0	1330.0	1323.4	1311.3	1304.2	1305.8
5°	1448.2	1460.8	1453.7	1452.7	1441.6	1430.5	1423.4	1407.3	1390.1	1378.5	1368.9
7.5°	1569.3	1576.9	1571.9	1566.3	1547.1	1541.1	1524.4	1505.2	1476.4	1454.7	1435.0
10°	1693.5	1699.6	1697.6	1684.5	1671.3	1644.6	1629.4	1599.6	1560.8	1530.0	1501.2
12.5°	1815.7	1822.3	1800.6	1804.6	1776.9	1757.2	1730.9	1691.5	1645.1	1603.2	1565.3
15°	1918.7	1910.7	1910.7	1900.6	1872.8	1843.5	1818.8	1779.4	1722.8	1675.4	1625.4
17.5°	2003.6	2007.1	2003.1	1977.3	1957.1	1927.3	1882.9	1838.0	1789.0	1725.4	1675.9
20°	2078.3	2078.3	2073.8	2057.6	2029.3	1997.0	1948.0	1898.0	1831.4	1767.3	1709.7
22.5°	2108.6	2110.6	2105.1	2092.4	2067.7	2036.4	1996.5	1945.5	1876.3	1802.1	1727.4
25°	2069.2	2078.8	2079.8	2076.3	2068.7	2049.5	2013.7	1961.7	1900.1	1821.8	1745.1
27.5°	1942.0	1954.6	1959.6	1970.8	1991.5	1999.0	1994.5	1959.6	1900.1	1822.8	1746.6
30°	1730.9	1741.0	1773.8	1816.8	1850.1	1880.4	1906.6	1913.7	1883.4	1815.7	1734.4
32.5°	1496.6	1511.3	1544.1	1591.0	1652.1	1708.7	1775.9	1811.7	1818.3	1784.4	1710.7
35°	1274.5	1284.6	1314.8	1363.3	1430.0	1506.2	1599.6	1672.3	1721.8	1718.3	1672.3
37.5°	1061.4	1075.5	1106.3	1146.2	1211.8	1309.3	1397.7	1495.1	1584.0	1627.4	1604.2
40°	893.7	894.2	924.0	965.4	1026.0	1108.3	1206.8	1317.9	1419.9	1503.2	1519.3
42.5°	761.4	761.4	778.6	824.1	863.4	939.7	1032.6	1142.7	1266.4	1365.8	1415.3
45°	651.4	655.9	672.1	698.8	733.2	798.8	874.0	976.5	1110.4	1224.5	1295.7
47.5°	564.5	572.6	582.2	606.4	634.7	680.7	744.8	840.7	951.8	1078.5	1177.0
50°	499.9	500.9	514.0	526.1	549.9	584.7	639.2	716.0	816.0	936.7	1049.3
52.5°	444.3	443.8	450.4	466.6	484.7	510.0	551.4	619.6	705.4	810.4	927.6
55°	388.8	391.3	397.4	409.5	424.1	443.3	478.2	530.7	600.4	692.8	798.3
57.5°	346.4	347.9	353.5	358.0	372.1	386.3	414.6	452.4	513.5	590.8	694.3
60°	305.0	305.5	307.0	314.6	325.2	338.3	356.0	386.8	436.3	505.4	583.2
62.5°	264.6	265.6	268.1	273.2	280.7	288.8	307.5	330.7	369.6	426.2	494.3
65°	227.2	227.7	231.3	233.3	239.8	247.9	261.6	278.2	306.5	356.0	409.0
67.5°	195.9	195.9	195.9	198.9	204.0	209.5	218.6	232.8	255.5	287.3	336.8
70°	165.6	165.6	166.6	168.1	170.7	175.2	179.8	189.9	205.5	230.2	266.1
72.5°	137.3	137.8	138.9	138.9	139.9	143.4	146.4	152.0	162.6	179.8	207.0
75°	105.0	106.5	109.1	111.1	113.6	113.1	116.6	120.7	124.2	135.3	152.0
77.5°	82.8	81.8	81.8	83.8	84.3	84.8	87.4	90.9	93.9	100.0	106.0
80°	59.6	59.6	61.1	61.6	61.1	61.6	64.1	65.6	66.7	68.7	74.2
82.5°	41.4	42.4	41.4	41.9	42.4	42.9	44.9	44.9	45.9	46.5	48.0
85°	25.2	25.8	26.3	25.2	25.2	25.2	26.3	26.8	27.8	27.3	28.3
87.5°	11.1	10.6	11.1	11.1	11.6	11.1	11.6	12.6	11.6	12.1	12.1
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°	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2
2.5°	1300.7	1293.6	1290.1	1282.0	1272.4	1267.4	1262.8	1256.3	1247.7	1238.6	1232.0
5°	1356.8	1344.6	1329.5	1311.3	1295.2	1279.5	1265.9	1252.2	1236.6	1220.4	1204.3
7.5°	1412.3	1390.6	1367.4	1339.6	1312.8	1288.1	1265.9	1244.2	1219.4	1197.2	1176.5
10°	1470.9	1438.6	1402.7	1364.8	1327.0	1294.1	1261.8	1232.5	1200.2	1171.4	1147.2
12.5°	1518.3	1479.0	1434.0	1384.5	1337.1	1295.7	1257.3	1216.9	1179.0	1147.2	1112.9
15°	1571.9	1519.9	1461.8	1405.2	1346.2	1292.1	1242.1	1197.7	1155.8	1111.9	1081.1
17.5°	1608.7	1548.6	1480.0	1414.3	1346.7	1284.0	1227.5	1176.0	1128.0	1084.1	1047.7
20°	1641.0	1572.9	1494.6	1417.4	1339.1	1270.9	1208.8	1150.2	1100.3	1051.8	1013.9
22.5°	1659.2	1582.0	1494.6	1412.8	1331.0	1255.8	1186.1	1124.5	1068.9	1020.5	977.6
25°	1660.2	1579.4	1492.1	1399.2	1310.3	1232.0	1161.3	1095.2	1034.6	986.1	941.7
27.5°	1656.2	1562.8	1474.9	1380.5	1289.1	1205.8	1132.6	1062.4	1002.3	950.8	905.3
30°	1644.1	1542.1	1446.1	1347.2	1254.3	1175.0	1096.7	1030.1	966.9	912.9	867.0
32.5°	1617.8	1516.8	1411.8	1309.8	1215.4	1133.1	1059.9	992.7	931.1	875.6	826.1
35°	1581.5	1479.0	1366.9	1262.8	1170.4	1085.6	1015.9	951.3	892.2	833.1	781.6
37.5°	1539.5	1432.5	1321.9	1207.8	1115.9	1035.1	970.0	907.9	850.3	796.3	739.2
40°	1474.9	1379.5	1264.4	1151.2	1056.3	979.1	920.0	865.0	806.9	753.4	696.3
42.5°	1396.6	1318.9	1202.2	1088.6	995.2	921.5	867.5	814.0	762.5	710.9	650.9
45°	1307.8	1246.2	1137.1	1028.0	933.6	859.9	809.4	761.9	715.5	666.0	610.0
47.5°	1208.8	1163.4	1068.4	954.3	866.0	798.3	749.8	710.4	669.5	619.6	569.1
50°	1104.8	1078.0	987.1	885.1	801.8	740.7	690.7	654.4	621.6	574.1	530.2
52.5°	993.7	982.6	909.4	812.9	733.2	673.6	632.7	600.9	567.5	530.2	489.8
55°	880.6	888.2	823.0	738.7	663.0	612.5	573.6	546.3	518.1	484.7	452.9
57.5°	763.0	791.7	743.3	667.0	593.8	546.3	516.5	492.3	468.6	440.3	411.5
60°	659.4	682.7	657.9	592.8	530.7	487.3	460.0	442.3	418.6	393.3	372.6
62.5°	558.5	583.7	571.6	522.1	465.5	429.7	406.5	390.3	374.2	352.9	331.2
65°	477.2	493.3	486.3	449.9	409.0	377.2	355.0	342.9	326.7	310.5	291.3
67.5°	381.7	413.5	408.5	388.3	348.9	323.7	308.0	296.9	281.8	269.6	256.0
70°	300.4	329.2	328.7	313.1	293.9	270.6	260.5	251.5	238.3	226.7	216.1
72.5°	232.3	258.0	263.1	252.0	240.3	224.2	214.6	209.0	196.4	189.4	181.3
75°	172.2	191.4	196.4	196.4	190.4	181.3	172.7	168.6	159.6	152.5	147.4
77.5°	121.2	134.3	141.9	143.4	143.9	140.4	132.3	129.3	122.2	119.7	114.1
80°	79.8	87.9	96.9	100.0	102.5	101.5	98.5	96.4	89.9	87.4	85.3
82.5°	49.0	52.5	59.6	67.2	65.6	69.2	66.7	65.1	60.6	60.1	58.1
85°	28.8	29.3	30.3	34.8	37.4	38.4	38.9	37.9	36.4	36.4	32.8
87.5°	12.1	11.6	12.6	12.6	13.1	15.1	16.7	17.2	15.7	14.1	12.6
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°	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2	1253.2
2.5°	1225.0	1219.9	1213.4	1205.8	1196.7	1188.6	1185.1	1188.1	1189.6	1185.6	1185.1
5°	1193.2	1180.5	1170.4	1155.3	1143.2	1133.1	1126.0	1123.0	1124.0	1115.9	1113.9
7.5°	1157.8	1144.2	1127.5	1110.4	1094.2	1080.1	1072.5	1068.9	1060.4	1056.8	1051.3
10°	1124.0	1103.8	1087.6	1066.4	1047.2	1029.6	1021.0	1013.9	1005.3	1001.3	992.7
12.5°	1089.1	1064.9	1046.7	1024.5	1004.8	982.6	974.5	959.9	945.2	935.6	924.0
15°	1056.8	1028.6	1006.8	980.6	957.4	933.1	911.4	887.2	878.1	858.9	847.8
17.5°	1018.5	989.2	964.9	931.1	896.3	867.0	842.7	817.5	803.9	790.7	785.2
20°	980.6	954.3	917.0	876.1	836.2	802.8	784.2	769.0	753.9	745.3	739.2
22.5°	944.7	909.4	864.4	819.5	779.6	755.4	740.2	724.6	713.0	704.9	696.3
25°	903.8	859.9	814.0	763.5	736.2	713.5	696.3	683.7	676.1	665.5	661.5
27.5°	863.9	810.9	758.9	724.6	696.3	674.6	658.9	649.9	639.8	632.7	627.1
30°	816.5	762.5	717.0	684.7	655.9	638.7	626.6	615.5	607.9	602.4	598.3
32.5°	769.5	715.5	679.1	643.8	622.6	605.9	592.8	585.2	579.7	572.1	570.1
35°	724.6	676.6	643.3	612.0	588.8	573.6	563.5	554.9	549.9	547.9	546.3
37.5°	680.7	640.8	603.9	578.7	556.9	545.3	532.2	528.2	524.6	520.1	522.1
40°	639.2	602.4	570.6	543.3	526.6	513.5	506.4	501.4	498.4	498.4	498.4
42.5°	603.4	567.5	536.7	513.0	496.4	485.7	477.7	473.6	473.1	472.6	475.6
45°	566.0	532.7	501.4	481.2	467.1	456.0	451.4	447.9	447.9	449.9	450.4
47.5°	528.7	497.4	472.1	448.9	435.8	428.7	424.6	422.6	422.6	425.2	427.2
50°	494.8	464.0	439.3	419.1	407.0	400.4	396.9	395.9	396.9	396.9	400.4
52.5°	458.0	431.2	407.0	390.8	376.7	370.6	369.1	367.6	368.1	370.1	371.1
55°	422.1	397.4	374.2	358.0	347.9	343.9	339.3	339.8	338.8	339.8	339.8
57.5°	385.8	364.1	341.3	328.2	319.6	313.6	308.5	310.0	308.5	308.5	308.0
60°	350.9	326.7	309.5	297.9	287.8	282.8	278.2	279.2	277.7	276.7	274.7
62.5°	313.1	293.9	277.7	266.6	259.0	253.0	248.4	246.9	242.9	238.8	233.8
65°	276.7	260.0	245.4	234.8	227.2	222.7	219.1	216.1	208.5	200.5	196.4
67.5°	240.9	228.7	214.6	205.5	199.4	193.4	186.8	181.3	173.7	168.6	166.1
70°	206.5	194.9	183.3	174.7	168.1	162.6	155.0	151.5	146.4	144.4	141.9
72.5°	173.7	163.1	152.5	144.9	137.8	133.8	128.3	124.7	123.2	122.7	120.2
75°	140.4	131.8	123.7	116.6	111.1	108.1	105.5	103.0	102.0	97.5	94.9
77.5°	108.1	102.0	96.9	91.4	87.9	85.8	80.3	76.7	74.7	72.2	71.7
80°	79.8	75.7	70.7	67.7	62.1	60.1	58.1	57.6	57.1	56.6	56.0
82.5°	55.0	51.0	45.9	44.4	43.9	42.9	41.9	41.4	40.9	41.4	41.4
85°	30.3	28.3	28.3	27.8	27.3	26.8	26.3	26.3	25.8	26.3	25.8
87.5°	12.6	12.1	12.1	11.1	11.6	11.6	11.1	11.1	11.6	10.6	10.6
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: P242748

CATALOG NUMBER: S124RDR-S795D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1253.2	1253.2	1253.2	1253.2
2.5°	1182.1	1183.1	1179.5	1178.5
5°	1109.8	1108.8	1106.3	1106.8
7.5°	1047.2	1043.7	1046.2	1042.2
10°	990.7	985.1	980.6	976.5
12.5°	913.4	908.9	902.3	904.8
15°	841.2	833.6	821.5	823.0
17.5°	776.6	777.6	770.5	772.5
20°	728.6	725.1	725.6	724.1
22.5°	695.3	690.7	686.2	682.7
25°	656.9	653.9	649.3	648.3
27.5°	623.1	622.6	620.6	618.0
30°	594.3	593.3	592.3	590.8
32.5°	568.6	568.1	567.0	567.5
35°	544.3	543.8	542.8	542.3
37.5°	521.6	523.1	522.1	522.1
40°	497.9	498.4	499.4	498.9
42.5°	478.2	478.2	479.7	477.7
45°	453.9	457.0	456.5	456.5
47.5°	428.2	431.7	432.2	432.2
50°	402.9	401.9	403.4	402.9
52.5°	372.1	372.6	372.1	371.6
55°	340.3	340.8	339.8	340.3
57.5°	306.5	304.5	306.0	305.0
60°	269.6	265.6	264.6	262.6
62.5°	228.2	225.7	221.7	224.2
65°	192.4	190.4	188.8	190.9
67.5°	163.6	162.6	162.6	161.6
70°	141.9	140.4	140.4	139.4
72.5°	119.7	118.2	118.7	118.2
75°	91.9	89.4	89.4	89.9
77.5°	71.7	71.2	72.2	70.7
80°	56.0	55.5	55.0	56.6
82.5°	40.4	40.4	40.4	42.4
85°	26.3	25.2	26.3	25.2
87.5°	11.6	11.1	10.6	11.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)