

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: P242566

Luminaire Tested: **S123RDR-S775D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242566
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-S775D830-X4F0-XX-UDD-A-W
Description: DEFINE 3 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: 2741.3 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

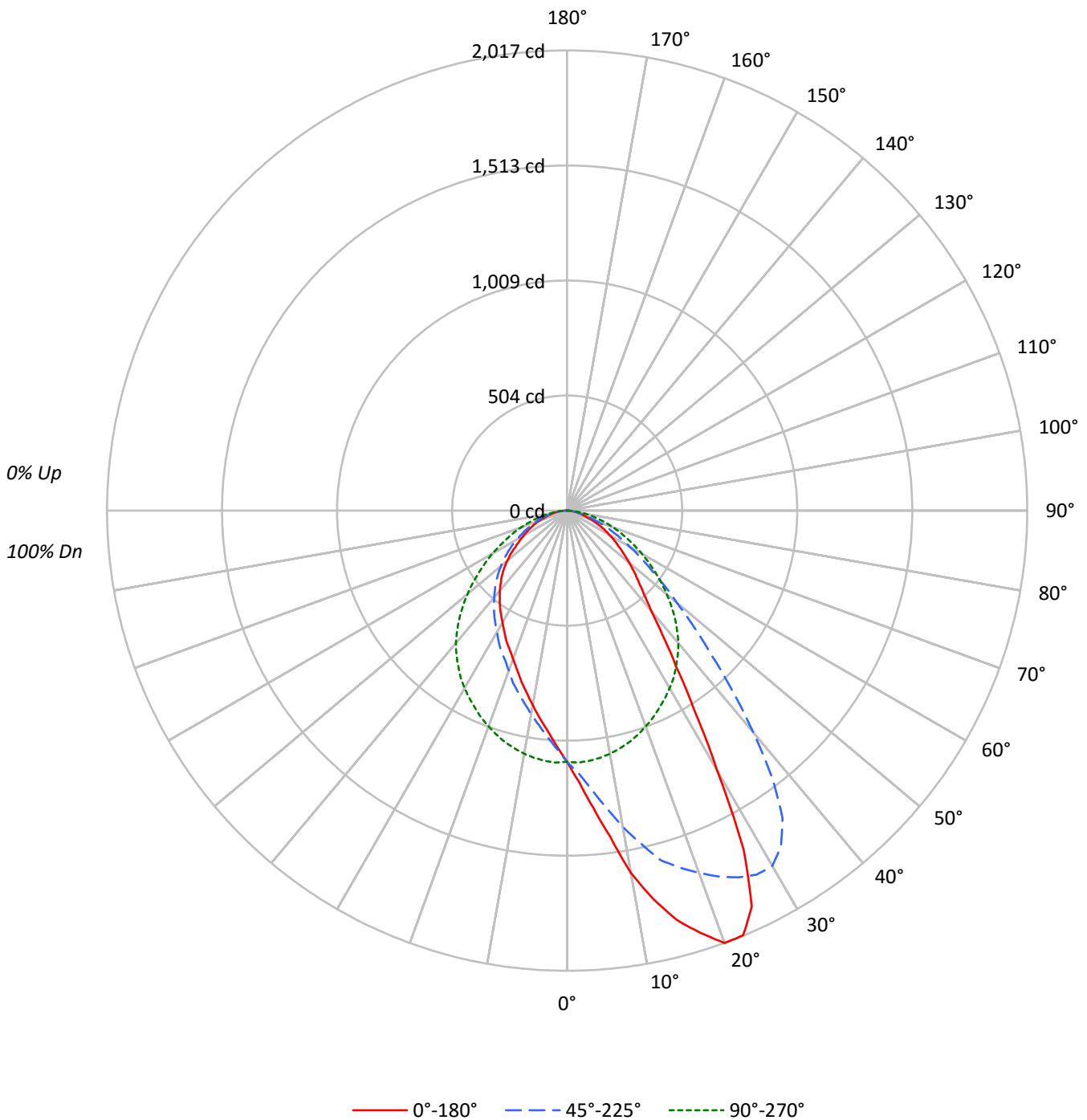
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	74
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58	56
5	80	68	60	53	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39
8	64	52	44	38	63	51	43	38	50	43	38	48	42	38	47	42	37	36
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13344	13344	13344
5°	15907	13401	11801
10°	19862	13324	10661
15°	23313	13189	9723
20°	26019	12986	8924
25°	25602	12770	8434
30°	18404	12573	7929
35°	12288	12316	7601
40°	9052	12007	7263
45°	7594	11463	6932
50°	6700	10752	6470
55°	5877	9939	5837
60°	5232	9164	5348
65°	4595	8326	4973
70°	3608	7584	4543
75°	3180	6622	4149
80°	2764	5626	4077
85°	2225	4520	4325



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	3.9
10°-20°	338.4	12.3
20°-30°	533.0	19.4
30°-40°	554.3	20.2
40°-50°	474.2	17.3
50°-60°	361.4	13.2
60°-70°	231.6	8.4
70°-80°	110.9	4.0
80°-90°	29.2	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°	979.6	35.7
0°-40°	1533.9	56.0
0°-60°	2369.6	86.4
0°-90°	2741.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2741.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1101	1101	1101	1101	1101	
5°	1307	1226	1101	994	970	134
15°	1858	1586	1051	826	775	527
25°	1914	1774	955	682	631	832
35°	830	1646	832	557	514	540
45°	443	894	669	440	404	347
55°	278	446	470	318	276	251
65°	160	220	290	198	173	158
75°	68	80	141	101	89	73
85°	16	17	32	30	31	18
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°	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9
2.5°	1190.5	1192.3	1186.2	1185.3	1178.2	1176.3	1176.3	1166.4	1160.3	1152.3	1147.6
5°	1307.3	1314.9	1311.1	1302.6	1288.5	1285.2	1276.2	1262.1	1246.1	1226.3	1216.8
7.5°	1441.2	1456.7	1453.9	1440.7	1425.6	1416.2	1391.2	1371.0	1340.3	1312.5	1290.8
10°	1613.7	1602.8	1594.3	1581.6	1568.0	1545.8	1519.4	1483.1	1441.2	1408.2	1371.4
12.5°	1742.8	1743.3	1732.0	1718.8	1698.0	1677.3	1643.4	1597.2	1546.7	1495.4	1452.0
15°	1857.8	1860.6	1853.5	1839.9	1812.5	1775.3	1726.3	1707.9	1638.2	1586.3	1534.5
17.5°	1939.8	1940.3	1938.8	1920.5	1890.8	1865.3	1819.6	1776.7	1710.7	1640.5	1571.2
20°	2017.1	2012.4	2013.3	1992.1	1971.4	1940.7	1896.4	1826.2	1774.4	1690.0	1617.9
22.5°	2015.2	2015.2	2019.4	2015.7	2002.0	1980.3	1947.8	1891.2	1821.5	1736.2	1652.8
25°	1914.3	1910.6	1932.7	1938.8	1962.9	1967.1	1956.8	1924.2	1861.6	1773.9	1673.5
27.5°	1674.0	1660.3	1706.5	1752.2	1813.0	1851.7	1891.2	1900.2	1870.5	1798.9	1693.8
30°	1314.9	1359.2	1379.9	1454.4	1537.3	1636.3	1723.0	1805.5	1825.7	1798.4	1715.9
32.5°	1035.9	1073.1	1089.6	1150.9	1226.7	1346.9	1487.8	1613.2	1711.2	1744.2	1702.7
35°	830.4	830.9	870.5	898.7	970.4	1089.6	1215.9	1372.4	1527.9	1645.7	1658.0
37.5°	685.2	687.1	712.6	740.9	798.3	865.3	982.6	1114.6	1301.7	1477.5	1568.9
40°	572.1	576.4	594.3	622.1	660.7	708.3	795.1	917.6	1067.5	1268.7	1433.2
42.5°	499.6	507.1	514.2	534.0	554.2	598.1	664.0	751.7	884.6	1072.2	1268.2
45°	443.0	446.8	453.8	463.7	485.4	516.5	563.7	627.3	740.4	893.5	1083.5
47.5°	399.6	397.3	405.3	413.8	428.4	451.0	484.0	539.1	624.0	752.2	916.6
50°	355.3	354.9	360.1	366.2	379.9	395.4	421.3	460.4	524.5	626.3	773.8
52.5°	313.9	316.2	319.5	327.5	336.5	348.3	370.9	396.3	449.1	533.5	650.4
55°	278.1	279.5	284.7	288.9	296.0	308.7	323.3	346.9	384.6	445.8	547.2
57.5°	247.0	246.5	251.7	252.1	261.1	271.9	283.7	302.1	330.8	379.4	450.1
60°	215.8	214.4	218.7	222.0	226.2	234.7	244.1	262.0	283.7	317.2	375.6
62.5°	187.6	187.1	189.9	193.2	196.5	204.1	211.6	224.3	240.4	267.2	310.6
65°	160.2	161.6	163.1	164.5	166.4	171.1	178.6	188.0	199.8	219.6	253.1
67.5°	132.0	133.8	134.3	137.6	141.4	143.7	148.0	156.9	165.9	183.8	203.6
70°	101.8	101.3	101.8	103.2	108.4	113.6	119.7	125.8	131.0	142.8	158.8
72.5°	83.9	82.9	84.4	84.4	86.2	86.7	90.0	95.7	102.7	109.8	120.2
75°	67.9	67.9	67.9	67.9	69.7	70.7	72.1	73.5	75.9	79.6	88.1
77.5°	52.8	52.8	53.7	54.2	54.7	55.1	56.1	57.5	58.4	60.3	64.6
80°	39.6	40.1	39.6	40.1	40.1	41.0	41.5	42.9	43.4	45.7	47.1
82.5°	27.3	26.9	27.3	27.8	27.8	28.7	28.7	29.7	29.7	30.6	32.0
85°	16.0	15.1	16.0	15.6	16.5	15.6	16.0	17.0	17.0	17.4	19.3
87.5°	4.7	5.7	4.7	5.2	5.2	5.7	5.7	5.7	6.6	6.1	6.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9
2.5°	1145.7	1144.3	1137.7	1130.1	1120.2	1113.6	1108.5	1105.6	1097.1	1086.8	1079.7
5°	1206.9	1192.8	1177.7	1159.4	1142.4	1124.9	1114.1	1101.4	1085.8	1068.4	1056.1
7.5°	1267.7	1243.2	1216.4	1188.6	1160.3	1135.3	1112.2	1093.4	1069.8	1045.8	1029.3
10°	1339.9	1299.3	1257.4	1214.5	1175.4	1138.6	1110.3	1082.5	1052.8	1024.1	1002.4
12.5°	1405.4	1348.8	1298.8	1243.7	1190.9	1145.2	1101.4	1067.5	1030.2	999.1	973.7
15°	1458.6	1403.9	1345.5	1265.4	1198.9	1143.3	1093.8	1051.0	1007.6	969.9	945.9
17.5°	1514.2	1431.3	1354.5	1292.3	1205.5	1138.1	1080.2	1030.2	983.1	944.4	914.3
20°	1546.3	1466.6	1381.3	1296.0	1211.2	1133.4	1063.2	1006.7	957.2	911.9	884.6
22.5°	1565.6	1472.8	1381.8	1288.5	1197.1	1115.5	1046.2	982.6	928.0	885.5	850.2
25°	1579.7	1472.3	1373.3	1282.8	1190.9	1103.3	1020.8	954.8	896.8	851.1	815.3
27.5°	1591.0	1466.6	1353.0	1254.5	1161.7	1072.6	998.2	927.5	869.5	821.9	782.8
30°	1593.9	1459.6	1329.0	1220.1	1125.4	1045.3	965.2	898.3	836.1	784.7	748.9
32.5°	1597.6	1442.1	1296.5	1179.1	1081.6	1002.4	931.7	868.6	804.5	754.0	717.3
35°	1584.4	1437.9	1263.5	1130.6	1033.5	956.7	891.2	832.3	769.6	720.6	683.4
37.5°	1544.4	1414.8	1230.5	1076.4	976.0	905.3	850.7	796.9	739.0	685.2	650.8
40°	1477.0	1377.1	1190.9	1027.9	921.8	848.8	800.7	758.8	703.2	653.7	616.0
42.5°	1376.6	1325.7	1153.2	977.0	860.6	790.8	752.2	713.5	666.4	616.0	581.1
45°	1249.4	1257.4	1099.0	922.3	804.9	734.3	696.1	668.7	625.4	583.9	547.6
47.5°	1094.8	1161.7	1041.1	864.8	744.6	678.2	644.7	619.7	589.6	546.7	513.2
50°	944.0	1051.0	968.5	806.8	688.5	622.6	589.6	570.2	544.8	512.8	481.2
52.5°	804.9	921.8	880.8	742.3	627.7	568.8	536.8	521.7	502.9	473.2	445.4
55°	679.1	795.5	784.2	677.2	567.0	512.8	488.2	470.3	456.7	434.0	411.4
57.5°	569.8	682.4	684.8	605.1	514.2	459.0	437.8	423.7	414.3	396.3	374.2
60°	467.5	568.8	588.6	532.1	456.7	409.5	388.8	378.0	370.9	357.2	341.2
62.5°	382.7	465.2	488.2	451.5	401.5	358.2	343.1	332.7	328.5	317.2	303.5
65°	305.9	377.5	399.2	376.6	347.8	312.5	299.3	290.3	286.1	279.5	269.1
67.5°	241.3	296.9	320.5	301.6	290.8	265.8	256.8	251.7	247.9	243.2	234.2
70°	184.7	223.4	247.9	243.7	235.2	223.4	217.3	214.0	210.2	206.4	198.9
72.5°	139.5	163.1	185.7	189.5	182.9	182.9	177.7	176.7	174.8	170.1	166.8
75°	98.5	116.9	132.9	139.0	141.9	144.2	141.9	141.4	140.9	137.1	134.8
77.5°	68.3	80.1	91.0	101.8	105.6	108.9	109.3	111.2	109.8	107.5	106.5
80°	49.5	51.8	58.9	67.9	74.9	77.8	79.6	80.6	80.1	79.6	77.8
82.5°	32.5	34.4	36.8	42.4	48.1	53.3	54.2	53.7	55.1	55.6	54.2
85°	19.3	19.8	20.7	21.7	25.0	30.2	31.6	32.5	33.5	33.5	30.6
87.5°	7.5	7.1	8.0	8.0	9.4	9.9	12.7	15.1	15.6	13.7	13.7
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°	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9	1100.9
2.5°	1077.3	1071.2	1067.0	1057.6	1051.4	1044.8	1038.2	1042.5	1042.0	1041.5	1041.5
5°	1045.8	1034.9	1025.0	1012.3	1004.3	994.4	986.9	985.9	987.8	981.2	977.4
7.5°	1016.1	1001.9	987.8	974.6	960.0	948.7	941.6	938.8	933.6	929.4	925.6
10°	984.5	967.1	953.4	936.0	919.9	905.8	896.8	890.7	887.4	884.1	878.0
12.5°	952.0	935.0	916.6	896.4	881.3	864.3	858.2	851.1	844.1	840.3	831.3
15°	920.4	898.3	879.9	859.1	842.2	826.2	816.7	803.1	801.2	796.5	788.0
17.5°	889.8	865.3	838.4	824.3	807.3	790.3	775.3	771.0	756.9	752.2	744.2
20°	852.1	829.9	810.6	790.3	762.5	747.0	735.7	729.5	718.7	712.1	707.4
22.5°	819.6	796.9	773.8	749.3	727.7	709.7	702.2	691.8	687.1	677.2	672.0
25°	788.9	764.4	737.6	712.1	695.6	682.4	669.2	660.7	652.3	648.0	638.6
27.5°	751.7	727.2	701.3	681.5	662.6	649.4	636.7	629.6	618.8	611.7	606.5
30°	722.0	691.8	670.2	652.7	626.8	614.6	605.6	596.2	588.6	581.1	575.9
32.5°	687.6	660.7	640.5	617.8	599.5	585.8	573.5	565.5	559.4	552.3	547.2
35°	651.3	628.2	607.0	585.3	570.7	557.1	543.4	536.3	530.2	523.6	518.9
37.5°	618.3	596.6	576.8	556.1	538.2	526.4	515.1	510.4	501.9	497.2	492.5
40°	588.2	567.0	545.3	525.5	506.6	498.1	488.2	480.2	472.7	469.4	464.2
42.5°	555.2	534.0	516.5	494.8	480.2	468.0	459.0	450.1	444.9	439.7	437.3
45°	522.7	503.8	485.9	464.7	450.1	440.2	429.8	421.8	416.6	413.3	408.1
47.5°	491.5	472.2	454.3	435.5	421.3	410.0	399.2	394.0	386.9	383.2	379.4
50°	457.1	440.2	420.9	403.9	389.7	378.4	370.0	362.9	356.8	351.6	349.2
52.5°	425.6	407.2	391.2	375.6	360.5	347.3	339.8	332.3	328.0	321.9	319.1
55°	390.2	372.8	358.6	343.1	328.5	317.6	308.2	301.6	296.9	290.3	286.5
57.5°	357.7	342.6	325.2	311.5	296.0	287.5	279.5	270.0	264.4	259.2	255.4
60°	324.7	306.8	292.2	279.5	266.3	254.5	247.4	240.4	234.2	229.0	225.7
62.5°	290.3	275.2	261.6	247.4	235.6	225.7	217.3	211.6	206.4	203.6	200.3
65°	255.0	242.7	228.6	217.3	205.9	198.4	191.8	186.6	182.9	180.5	177.7
67.5°	222.4	210.7	197.9	186.2	178.6	172.5	167.8	163.1	161.2	158.4	156.5
70°	190.9	178.6	167.8	159.3	151.8	147.5	144.7	141.4	139.5	135.7	133.8
72.5°	156.5	148.5	141.4	134.8	129.1	125.4	121.6	117.3	114.0	109.8	107.9
75°	128.7	120.6	114.5	109.8	106.0	100.9	95.7	91.4	90.0	88.6	88.1
77.5°	100.4	95.2	90.5	86.7	81.5	76.8	75.4	74.5	74.0	73.0	73.0
80°	74.9	70.2	66.9	62.2	59.4	59.4	59.4	58.4	58.9	58.9	58.9
82.5°	50.9	46.7	45.2	44.3	44.3	44.8	44.8	45.2	44.8	45.7	45.2
85°	28.7	29.2	30.2	29.7	30.2	30.2	31.1	30.6	31.1	30.2	31.1
87.5°	13.2	14.6	15.1	15.6	16.0	15.6	16.0	16.0	16.5	16.5	16.5
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: P242566

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1100.9	1100.9	1100.9	1100.9
2.5°	1035.9	1035.4	1035.9	1034.0
5°	976.0	975.6	974.1	969.9
7.5°	921.8	920.9	917.1	918.1
10°	874.7	875.2	869.5	866.2
12.5°	829.0	826.2	821.9	818.1
15°	789.9	785.2	773.8	774.8
17.5°	741.3	737.6	737.1	730.5
20°	699.9	697.5	698.4	691.8
22.5°	667.3	665.0	659.8	658.9
25°	635.8	632.0	628.2	630.6
27.5°	603.7	600.9	596.6	596.6
30°	573.5	570.7	568.8	566.5
32.5°	542.9	542.9	539.1	539.1
35°	517.0	514.2	513.2	513.7
37.5°	492.0	488.2	486.4	484.5
40°	464.7	460.9	460.0	459.0
42.5°	434.0	433.1	432.6	430.8
45°	406.7	406.2	403.4	404.4
47.5°	377.5	375.1	373.7	375.1
50°	347.3	346.4	342.1	343.1
52.5°	317.2	312.9	312.0	311.0
55°	283.2	279.0	277.1	276.2
57.5°	249.8	248.4	246.5	247.9
60°	221.0	221.0	221.0	220.6
62.5°	198.9	197.5	197.0	197.9
65°	176.3	175.8	173.9	173.4
67.5°	155.5	153.6	153.6	152.7
70°	131.5	130.5	127.7	128.2
72.5°	105.6	104.6	104.6	103.7
75°	87.7	87.2	86.7	88.6
77.5°	73.0	73.0	73.5	72.6
80°	58.9	58.9	58.4	58.4
82.5°	44.3	44.8	45.2	44.3
85°	31.1	30.6	31.6	31.1
87.5°	17.4	16.5	16.5	17.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)