

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: P242581

Luminaire Tested: **S123RDR-S775D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242581
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-S775D930-X4F0-XX-UDD-A-W
Description: DEFINE 3 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: 2371.2 lumens
Efficiency: N/A
Efficacy: 89.8 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

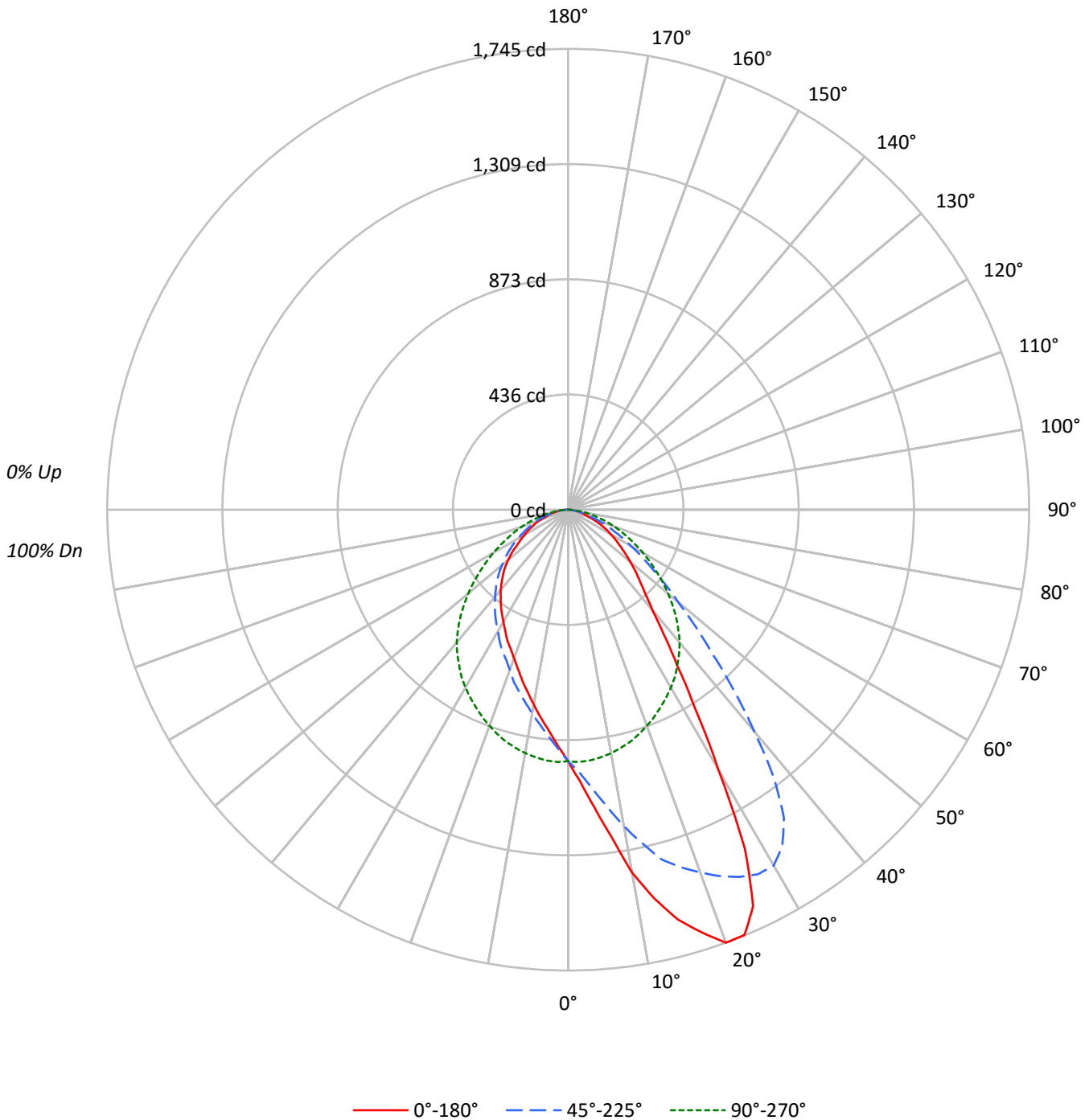
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	11543	11543	11543
5°	13759	11592	10209
10°	17180	11525	9223
15°	20166	11408	8410
20°	22506	11233	7719
25°	22146	11046	7294
30°	15919	10875	6858
35°	10629	10653	6574
40°	7831	10385	6283
45°	6569	9917	5996
50°	5797	9302	5597
55°	5082	8597	5049
60°	4526	7925	4625
65°	3975	7202	4302
70°	3122	6560	3930
75°	2749	5728	3587
80°	2387	4865	3525
85°	1933	3908	3741



TEST NUMBER: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	3.9
10°-20°	292.7	12.3
20°-30°	461.1	19.4
30°-40°	479.5	20.2
40°-50°	410.2	17.3
50°-60°	312.6	13.2
60°-70°	200.3	8.4
70°-80°	96.0	4.0
80°-90°	25.2	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°	847.3	35.7
0°-40°	1326.8	56.0
0°-60°	2049.7	86.4
0°-90°	2371.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2371.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	952	952	952	952	952	
5°	1131	1061	953	860	839	116
15°	1607	1372	909	715	670	456
25°	1656	1534	826	590	545	720
35°	718	1424	720	482	444	467
45°	383	773	578	381	350	301
55°	240	386	407	275	239	217
65°	139	190	251	172	150	136
75°	59	69	122	87	77	63
85°	14	15	28	26	27	16
90°	0	0	0	0	0	



TEST NUMBER: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	1029.7	1031.4	1026.1	1025.3	1019.1	1017.5	1017.5	1009.0	1003.7	996.7	992.6
5°	1130.8	1137.4	1134.1	1126.8	1114.5	1111.7	1103.9	1091.7	1077.8	1060.7	1052.6
7.5°	1246.6	1260.1	1257.6	1246.2	1233.2	1225.0	1203.4	1185.9	1159.4	1135.3	1116.6
10°	1395.8	1386.4	1379.1	1368.1	1356.3	1337.1	1314.3	1282.9	1246.6	1218.1	1186.3
12.5°	1507.5	1507.9	1498.1	1486.7	1468.8	1450.9	1421.5	1381.6	1337.9	1293.5	1256.0
15°	1607.0	1609.4	1603.3	1591.5	1567.9	1535.6	1493.3	1477.4	1417.0	1372.2	1327.3
17.5°	1677.9	1678.3	1677.1	1661.2	1635.5	1613.5	1574.0	1536.9	1479.8	1419.1	1359.1
20°	1744.8	1740.7	1741.5	1723.2	1705.2	1678.7	1640.4	1579.7	1534.8	1461.9	1399.5
22.5°	1743.1	1743.1	1746.8	1743.6	1731.7	1713.0	1684.8	1635.9	1575.6	1501.8	1429.7
25°	1655.9	1652.6	1671.8	1677.1	1697.9	1701.6	1692.6	1664.5	1610.2	1534.4	1447.6
27.5°	1448.0	1436.2	1476.1	1515.7	1568.3	1601.7	1635.9	1643.7	1618.0	1556.0	1465.1
30°	1137.4	1175.7	1193.6	1258.0	1329.8	1415.4	1490.4	1561.7	1579.3	1555.6	1484.3
32.5°	896.0	928.2	942.5	995.5	1061.1	1165.1	1287.0	1395.4	1480.2	1508.7	1472.9
35°	718.3	718.7	752.9	777.4	839.4	942.5	1051.8	1187.1	1321.6	1423.5	1434.1
37.5°	592.7	594.4	616.4	640.8	690.6	748.5	850.0	964.1	1126.0	1278.0	1357.1
40°	494.9	498.6	514.1	538.1	571.5	612.7	687.7	793.7	923.3	1097.4	1239.7
42.5°	432.1	438.6	444.8	461.9	479.4	517.3	574.4	650.2	765.2	927.4	1097.0
45°	383.2	386.5	392.6	401.1	419.9	446.8	487.6	542.6	640.4	772.9	937.2
47.5°	345.7	343.7	350.6	357.9	370.6	390.1	418.7	466.4	539.7	650.6	792.9
50°	307.4	307.0	311.5	316.8	328.6	342.0	364.4	398.3	453.7	541.8	669.4
52.5°	271.5	273.5	276.4	283.3	291.1	301.3	320.8	342.8	388.5	461.5	562.6
55°	240.5	241.7	246.2	249.9	256.0	267.0	279.7	300.0	332.6	385.6	473.3
57.5°	213.6	213.2	217.7	218.1	225.8	235.2	245.4	261.3	286.2	328.2	389.3
60°	186.7	185.5	189.2	192.0	195.7	203.0	211.2	226.7	245.4	274.4	324.9
62.5°	162.2	161.8	164.3	167.1	170.0	176.5	183.0	194.0	207.9	231.1	268.6
65°	138.6	139.8	141.0	142.3	143.9	148.0	154.5	162.7	172.8	190.0	218.9
67.5°	114.1	115.8	116.2	119.0	122.3	124.3	128.0	135.8	143.5	159.0	176.1
70°	88.1	87.6	88.1	89.3	93.8	98.2	103.5	108.8	113.3	123.5	137.4
72.5°	72.6	71.7	73.0	73.0	74.6	75.0	77.9	82.8	88.9	95.0	104.0
75°	58.7	58.7	58.7	58.7	60.3	61.1	62.4	63.6	65.6	68.9	76.2
77.5°	45.7	45.7	46.5	46.9	47.3	47.7	48.5	49.7	50.5	52.2	55.8
80°	34.2	34.7	34.2	34.7	34.7	35.5	35.9	37.1	37.5	39.5	40.8
82.5°	23.6	23.2	23.6	24.1	24.1	24.9	24.9	25.7	25.7	26.5	27.7
85°	13.9	13.0	13.9	13.5	14.3	13.5	13.9	14.7	14.7	15.1	16.7
87.5°	4.1	4.9	4.1	4.5	4.5	4.9	4.9	4.9	5.7	5.3	5.7
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: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	991.0	989.8	984.1	977.6	969.0	963.3	958.8	956.4	949.0	940.1	933.9
5°	1044.0	1031.8	1018.7	1002.8	988.2	973.1	963.7	952.7	939.2	924.2	913.6
7.5°	1096.6	1075.4	1052.2	1028.1	1003.7	982.0	962.1	945.8	925.4	904.6	890.3
10°	1159.0	1123.9	1087.6	1050.5	1016.7	984.9	960.4	936.4	910.7	885.8	867.1
12.5°	1215.6	1166.7	1123.5	1075.8	1030.2	990.6	952.7	923.3	891.1	864.2	842.2
15°	1261.7	1214.4	1163.9	1094.6	1037.1	989.0	946.2	909.1	871.6	839.0	818.2
17.5°	1309.8	1238.1	1171.6	1117.8	1042.8	984.5	934.4	891.1	850.4	816.9	790.9
20°	1337.5	1268.6	1194.8	1121.1	1047.7	980.4	919.7	870.8	828.0	788.8	765.2
22.5°	1354.2	1273.9	1195.3	1114.5	1035.5	964.9	905.0	850.0	802.7	766.0	735.4
25°	1366.5	1273.5	1187.9	1109.6	1030.2	954.3	883.0	825.9	775.8	736.2	705.2
27.5°	1376.3	1268.6	1170.4	1085.2	1004.9	927.8	863.4	802.3	752.1	711.0	677.1
30°	1378.7	1262.5	1149.6	1055.4	973.5	904.2	834.9	777.0	723.2	678.8	647.8
32.5°	1382.0	1247.4	1121.5	1020.0	935.6	867.1	805.9	751.3	695.9	652.3	620.5
35°	1370.5	1243.8	1092.9	978.0	894.0	827.5	770.9	719.9	665.7	623.3	591.1
37.5°	1335.9	1223.8	1064.4	931.1	844.3	783.1	735.8	689.3	639.2	592.7	563.0
40°	1277.6	1191.2	1030.2	889.1	797.4	734.2	692.6	656.3	608.2	565.4	532.8
42.5°	1190.8	1146.7	997.5	845.1	744.4	684.0	650.6	617.2	576.4	532.8	502.6
45°	1080.7	1087.6	950.7	797.8	696.3	635.1	602.1	578.5	541.0	505.1	473.7
47.5°	947.0	1004.9	900.5	748.1	644.1	586.6	557.7	536.1	510.0	472.9	443.9
50°	816.5	909.1	837.7	697.9	595.6	538.5	510.0	493.3	471.3	443.5	416.2
52.5°	696.3	797.4	761.9	642.1	543.0	492.0	464.3	451.3	435.0	409.3	385.2
55°	587.4	688.1	678.3	585.8	490.4	443.5	422.3	406.8	395.0	375.5	355.9
57.5°	492.9	590.3	592.3	523.4	444.8	397.1	378.7	366.5	358.3	342.8	323.7
60°	404.4	492.0	509.2	460.2	395.0	354.3	336.3	326.9	320.8	309.0	295.1
62.5°	331.0	402.4	422.3	390.5	347.3	309.8	296.8	287.8	284.1	274.4	262.5
65°	264.6	326.5	345.3	325.7	300.9	270.3	258.9	251.1	247.4	241.7	232.8
67.5°	208.7	256.8	277.2	260.9	251.5	229.9	222.2	217.7	214.4	210.4	202.6
70°	159.8	193.2	214.4	210.8	203.4	193.2	187.9	185.1	181.8	178.6	172.0
72.5°	120.7	141.0	160.6	163.9	158.2	158.2	153.7	152.9	151.2	147.2	144.3
75°	85.2	101.1	115.0	120.3	122.7	124.7	122.7	122.3	121.9	118.6	116.6
77.5°	59.1	69.3	78.7	88.1	91.3	94.2	94.6	96.2	95.0	92.9	92.1
80°	42.8	44.8	51.0	58.7	64.8	67.3	68.9	69.7	69.3	68.9	67.3
82.5°	28.1	29.8	31.8	36.7	41.6	46.1	46.9	46.5	47.7	48.1	46.9
85°	16.7	17.1	17.9	18.8	21.6	26.1	27.3	28.1	28.9	28.9	26.5
87.5°	6.5	6.1	6.9	6.9	8.2	8.6	11.0	13.0	13.5	11.8	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



TEST NUMBER: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3	952.3
2.5°	931.9	926.6	922.9	914.8	909.5	903.8	898.1	901.7	901.3	900.9	900.9
5°	904.6	895.2	886.7	875.6	868.7	860.2	853.6	852.8	854.5	848.7	845.5
7.5°	878.9	866.7	854.5	843.0	830.4	820.6	814.5	812.1	807.6	803.9	800.6
10°	851.6	836.5	824.7	809.6	795.7	783.5	775.8	770.5	767.6	764.8	759.5
12.5°	823.5	808.8	792.9	775.4	762.3	747.6	742.3	736.2	730.1	726.9	719.1
15°	796.2	777.0	761.1	743.2	728.5	714.6	706.5	694.6	693.0	688.9	681.6
17.5°	769.7	748.5	725.2	713.0	698.3	683.6	670.6	666.9	654.7	650.6	643.7
20°	737.0	717.9	701.2	683.6	659.6	646.1	636.4	631.1	621.7	616.0	611.9
22.5°	708.9	689.3	669.4	648.2	629.4	613.9	607.4	598.4	594.4	585.8	581.3
25°	682.4	661.2	638.0	616.0	601.7	590.3	578.9	571.5	564.2	560.5	552.4
27.5°	650.2	629.0	606.6	589.5	573.2	561.8	550.7	544.6	535.3	529.1	524.7
30°	624.5	598.4	579.7	564.6	542.2	531.6	523.8	515.7	509.2	502.6	498.2
32.5°	594.8	571.5	554.0	534.4	518.5	506.7	496.1	489.2	483.9	477.8	473.3
35°	563.4	543.4	525.1	506.3	493.7	481.9	470.0	463.9	458.6	452.9	448.8
37.5°	534.8	516.1	499.0	481.0	465.5	455.4	445.6	441.5	434.2	430.1	426.0
40°	508.8	490.4	471.7	454.5	438.2	430.9	422.3	415.4	408.9	406.0	401.5
42.5°	480.2	461.9	446.8	428.0	415.4	404.8	397.1	389.3	384.8	380.3	378.3
45°	452.1	435.8	420.3	402.0	389.3	380.8	371.8	364.9	360.4	357.5	353.0
47.5°	425.2	408.5	393.0	376.7	364.4	354.7	345.3	340.8	334.7	331.4	328.2
50°	395.4	380.8	364.0	349.4	337.1	327.3	320.0	313.9	308.6	304.1	302.1
52.5°	368.1	352.2	338.4	324.9	311.9	300.4	293.9	287.4	283.7	278.4	276.0
55°	337.5	322.5	310.2	296.8	284.1	274.8	266.6	260.9	256.8	251.1	247.9
57.5°	309.4	296.4	281.3	269.5	256.0	248.7	241.7	233.6	228.7	224.2	221.0
60°	280.9	265.4	252.7	241.7	230.3	220.1	214.0	207.9	202.6	198.1	195.3
62.5°	251.1	238.1	226.3	214.0	203.8	195.3	187.9	183.0	178.6	176.1	173.3
65°	220.5	209.9	197.7	187.9	178.1	171.6	165.9	161.4	158.2	156.1	153.7
67.5°	192.4	182.2	171.2	161.0	154.5	149.2	145.1	141.0	139.4	137.0	135.3
70°	165.1	154.5	145.1	137.8	131.3	127.6	125.2	122.3	120.7	117.4	115.8
72.5°	135.3	128.4	122.3	116.6	111.7	108.4	105.2	101.5	98.7	95.0	93.4
75°	111.3	104.4	99.1	95.0	91.7	87.2	82.8	79.1	77.9	76.6	76.2
77.5°	86.8	82.3	78.3	75.0	70.5	66.4	65.2	64.4	64.0	63.2	63.2
80°	64.8	60.7	57.9	53.8	51.4	51.4	51.4	50.5	51.0	51.0	51.0
82.5°	44.0	40.4	39.1	38.3	38.3	38.7	38.7	39.1	38.7	39.5	39.1
85°	24.9	25.3	26.1	25.7	26.1	26.1	26.9	26.5	26.9	26.1	26.9
87.5°	11.4	12.6	13.0	13.5	13.9	13.5	13.9	13.9	14.3	14.3	14.3
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: P242581

CATALOG NUMBER: S123RDR-S775D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	952.3	952.3	952.3	952.3
2.5°	896.0	895.6	896.0	894.4
5°	844.3	843.9	842.6	839.0
7.5°	797.4	796.6	793.3	794.1
10°	756.6	757.0	752.1	749.3
12.5°	717.1	714.6	711.0	707.7
15°	683.2	679.2	669.4	670.2
17.5°	641.2	638.0	637.6	631.9
20°	605.4	603.3	604.1	598.4
22.5°	577.2	575.2	570.7	569.9
25°	549.9	546.7	543.4	545.4
27.5°	522.2	519.8	516.1	516.1
30°	496.1	493.7	492.0	490.0
32.5°	469.6	469.6	466.4	466.4
35°	447.2	444.8	443.9	444.3
37.5°	425.6	422.3	420.7	419.1
40°	402.0	398.7	397.9	397.1
42.5°	375.5	374.6	374.2	372.6
45°	351.8	351.4	349.0	349.8
47.5°	326.5	324.5	323.3	324.5
50°	300.4	299.6	296.0	296.8
52.5°	274.4	270.7	269.9	269.1
55°	245.0	241.3	239.7	238.9
57.5°	216.1	214.8	213.2	214.4
60°	191.2	191.2	191.2	190.8
62.5°	172.0	170.8	170.4	171.2
65°	152.5	152.1	150.4	150.0
67.5°	134.5	132.9	132.9	132.1
70°	113.7	112.9	110.5	110.9
72.5°	91.3	90.5	90.5	89.7
75°	75.8	75.4	75.0	76.6
77.5°	63.2	63.2	63.6	62.8
80°	51.0	51.0	50.5	50.5
82.5°	38.3	38.7	39.1	38.3
85°	26.9	26.5	27.3	26.9
87.5°	15.1	14.3	14.3	14.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)