

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: P242561

Luminaire Tested: **S123RDR-S775D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242561
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-S775D927-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2304.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

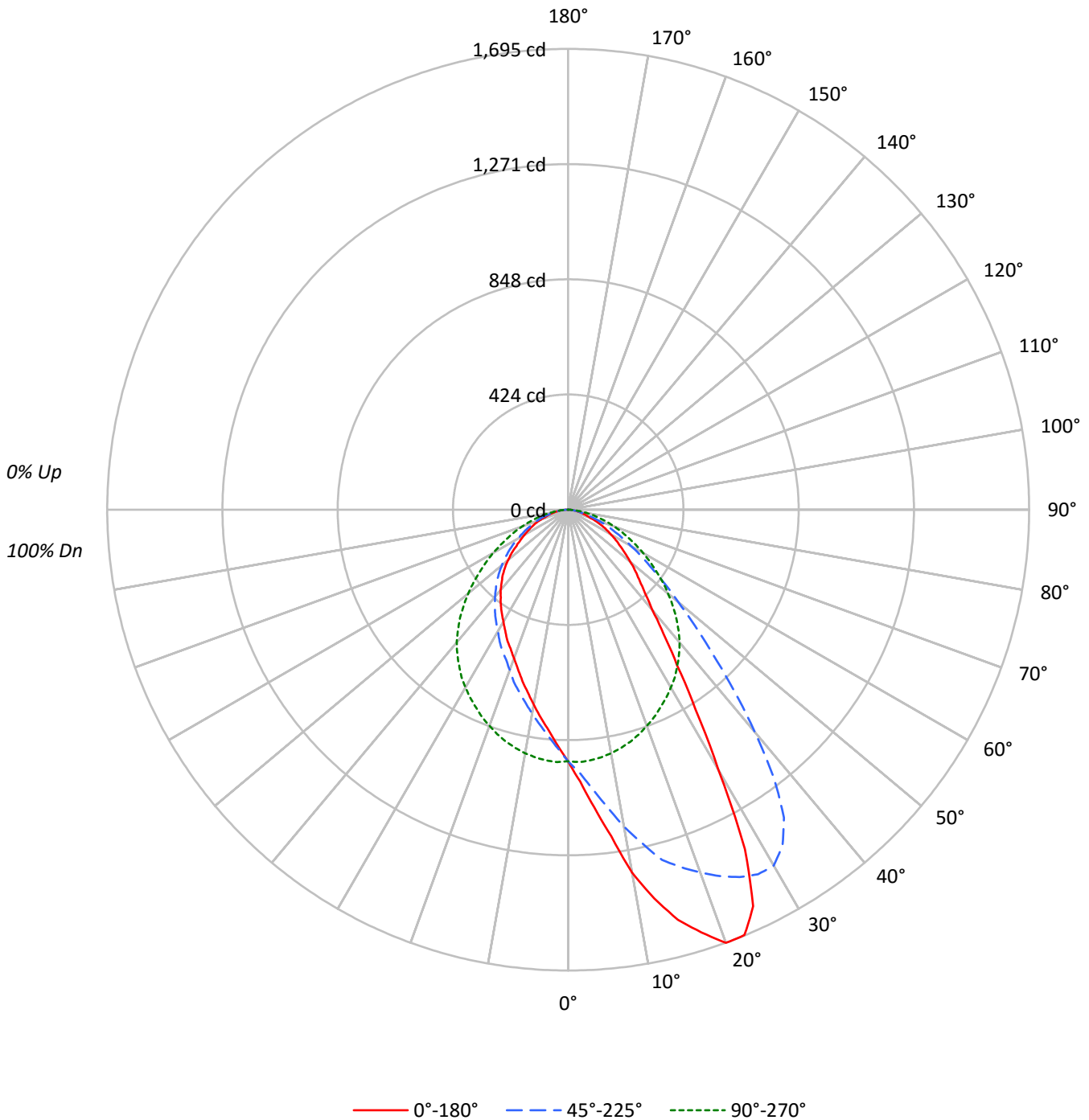
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





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CATALOG NUMBER: S123RDR-S775D927-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	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°	11216	11216	11216
5°	13370	11263	9919
10°	16692	11198	8960
15°	19594	11084	8172
20°	21868	10914	7501
25°	21519	10733	7088
30°	15467	10567	6664
35°	10327	10351	6388
40°	7609	10090	6105
45°	6382	9636	5827
50°	5633	9038	5438
55°	4939	8354	4905
60°	4398	7702	4495
65°	3863	6998	4182
70°	3034	6372	3817
75°	2669	5564	3489
80°	2324	4726	3427
85°	1878	3797	3630



TEST NUMBER: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	3.9
10°-20°	284.4	12.3
20°-30°	448.0	19.4
30°-40°	465.9	20.2
40°-50°	398.6	17.3
50°-60°	303.8	13.2
60°-70°	194.6	8.4
70°-80°	93.2	4.0
80°-90°	24.5	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°	823.3	35.7
0°-40°	1289.2	56.0
0°-60°	1991.6	86.4
0°-90°	2304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2304.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	925	925	925	925	925	
5°	1099	1031	926	836	815	113
15°	1561	1333	883	694	651	443
25°	1609	1491	802	574	530	699
35°	698	1383	700	468	432	454
45°	372	751	562	370	340	292
55°	234	375	395	267	232	211
65°	135	185	244	167	146	133
75°	57	67	119	85	74	61
85°	14	15	27	25	26	16
90°	0	0	0	0	0	



TEST NUMBER: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	1000.5	1002.1	997.0	996.2	990.2	988.7	988.7	980.3	975.2	968.5	964.5
5°	1098.8	1105.1	1101.9	1094.8	1082.9	1080.2	1072.6	1060.8	1047.3	1030.6	1022.7
7.5°	1211.3	1224.3	1222.0	1210.9	1198.2	1190.3	1169.3	1152.3	1126.5	1103.1	1084.9
10°	1356.2	1347.1	1340.0	1329.3	1317.8	1299.2	1277.0	1246.5	1211.3	1183.5	1152.6
12.5°	1464.8	1465.2	1455.7	1444.6	1427.1	1409.7	1381.2	1342.4	1300.0	1256.8	1220.4
15°	1561.4	1563.8	1557.9	1546.4	1523.4	1492.1	1450.9	1435.5	1376.8	1333.3	1289.7
17.5°	1630.3	1630.7	1629.6	1614.1	1589.1	1567.8	1529.3	1493.3	1437.8	1378.8	1320.6
20°	1695.3	1691.3	1692.1	1674.3	1656.9	1631.1	1593.9	1534.9	1491.3	1420.4	1359.8
22.5°	1693.7	1693.7	1697.3	1694.1	1682.6	1664.4	1637.1	1589.5	1530.9	1459.2	1389.1
25°	1609.0	1605.8	1624.4	1629.6	1649.8	1653.3	1644.6	1617.3	1564.6	1490.9	1406.5
27.5°	1406.9	1395.5	1434.3	1472.7	1523.8	1556.3	1589.5	1597.1	1572.1	1511.9	1423.6
30°	1105.1	1142.3	1159.8	1222.4	1292.1	1375.3	1448.1	1517.5	1534.5	1511.5	1442.2
32.5°	870.6	901.9	915.8	967.3	1031.0	1132.1	1250.5	1355.8	1438.2	1466.0	1431.1
35°	697.9	698.3	731.6	755.4	815.6	915.8	1021.9	1153.4	1284.2	1383.2	1393.5
37.5°	575.9	577.5	598.9	622.7	671.0	727.2	825.9	936.8	1094.0	1241.8	1318.6
40°	480.9	484.4	499.5	522.9	555.3	595.3	668.2	771.2	897.2	1066.3	1204.5
42.5°	419.9	426.2	432.1	448.8	465.8	502.6	558.1	631.8	743.5	901.1	1065.9
45°	372.3	375.5	381.4	389.8	408.0	434.1	473.7	527.2	622.3	751.0	910.6
47.5°	335.9	333.9	340.6	347.8	360.1	379.1	406.8	453.1	524.4	632.2	770.4
50°	298.7	298.3	302.6	307.8	319.3	332.3	354.1	387.0	440.9	526.4	650.4
52.5°	263.8	265.8	268.6	275.3	282.8	292.7	311.7	333.1	377.5	448.4	546.6
55°	233.7	234.9	239.2	242.8	248.8	259.4	271.7	291.5	323.2	374.7	459.9
57.5°	207.6	207.2	211.5	211.9	219.4	228.5	238.5	253.9	278.1	318.9	378.3
60°	181.4	180.2	183.8	186.6	190.1	197.3	205.2	220.2	238.5	266.6	315.7
62.5°	157.6	157.3	159.6	162.4	165.2	171.5	177.8	188.5	202.0	224.6	261.0
65°	134.7	135.9	137.1	138.2	139.8	143.8	150.1	158.0	167.9	184.6	212.7
67.5°	110.9	112.5	112.9	115.7	118.8	120.8	124.4	131.9	139.4	154.5	171.1
70°	85.6	85.2	85.6	86.7	91.1	95.5	100.6	105.8	110.1	120.0	133.5
72.5°	70.5	69.7	70.9	70.9	72.5	72.9	75.7	80.4	86.3	92.3	101.0
75°	57.0	57.0	57.0	57.0	58.6	59.4	60.6	61.8	63.8	66.9	74.1
77.5°	44.4	44.4	45.2	45.6	45.9	46.3	47.1	48.3	49.1	50.7	54.3
80°	33.3	33.7	33.3	33.7	33.7	34.5	34.9	36.0	36.4	38.4	39.6
82.5°	23.0	22.6	23.0	23.4	23.4	24.2	24.2	25.0	25.0	25.7	26.9
85°	13.5	12.7	13.5	13.1	13.9	13.1	13.5	14.3	14.3	14.7	16.2
87.5°	4.0	4.8	4.0	4.4	4.4	4.8	4.8	4.8	5.5	5.1	5.5
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: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	962.9	961.7	956.2	949.8	941.5	936.0	931.6	929.2	922.1	913.4	907.5
5°	1014.4	1002.5	989.9	974.4	960.1	945.5	936.4	925.7	912.6	898.0	887.7
7.5°	1065.5	1044.9	1022.3	999.0	975.2	954.2	934.8	918.9	899.1	878.9	865.1
10°	1126.1	1092.0	1056.8	1020.7	987.9	957.0	933.2	909.8	884.9	860.7	842.5
12.5°	1181.2	1133.6	1091.6	1045.3	1000.9	962.5	925.7	897.2	865.9	839.7	818.3
15°	1225.9	1180.0	1130.9	1063.5	1007.7	960.9	919.3	883.3	846.9	815.2	795.0
17.5°	1272.7	1203.0	1138.4	1086.1	1013.2	956.6	907.9	865.9	826.3	793.8	768.4
20°	1299.6	1232.7	1161.0	1089.3	1018.0	952.6	893.6	846.1	804.5	766.5	743.5
22.5°	1315.8	1237.8	1161.4	1082.9	1006.1	937.6	879.3	825.9	779.9	744.3	714.6
25°	1327.7	1237.4	1154.2	1078.2	1000.9	927.3	858.0	802.5	753.8	715.4	685.3
27.5°	1337.2	1232.7	1137.2	1054.4	976.4	901.5	838.9	779.5	730.8	690.8	657.9
30°	1339.6	1226.7	1117.0	1025.5	945.9	878.5	811.2	755.0	702.7	659.5	629.4
32.5°	1342.8	1212.1	1089.7	991.0	909.0	842.5	783.1	730.0	676.1	633.8	602.9
35°	1331.7	1208.5	1061.9	950.2	868.6	804.1	749.0	699.5	646.8	605.6	574.3
37.5°	1298.0	1189.1	1034.2	904.7	820.3	760.9	715.0	669.8	621.1	575.9	547.0
40°	1241.4	1157.4	1000.9	863.9	774.8	713.4	673.0	637.7	591.0	549.4	517.7
42.5°	1157.0	1114.2	969.3	821.1	723.3	664.7	632.2	599.7	560.1	517.7	488.4
45°	1050.1	1056.8	923.7	775.2	676.5	617.1	585.0	562.1	525.6	490.8	460.3
47.5°	920.1	976.4	875.0	726.8	625.8	570.0	541.9	520.9	495.5	459.5	431.4
50°	793.4	883.3	814.0	678.1	578.7	523.2	495.5	479.3	457.9	431.0	404.4
52.5°	676.5	774.8	740.3	623.9	527.6	478.1	451.2	438.5	422.6	397.7	374.3
55°	570.8	668.6	659.1	569.2	476.5	431.0	410.4	395.3	383.8	364.8	345.8
57.5°	478.9	573.6	575.5	508.6	432.1	385.8	368.0	356.1	348.2	333.1	314.5
60°	392.9	478.1	494.7	447.2	383.8	344.2	326.8	317.7	311.7	300.2	286.8
62.5°	321.6	390.9	410.4	379.5	337.5	301.0	288.4	279.6	276.1	266.6	255.1
65°	257.1	317.3	335.5	316.5	292.3	262.6	251.5	244.0	240.4	234.9	226.2
67.5°	202.8	249.5	269.3	253.5	244.4	223.4	215.9	211.5	208.3	204.4	196.9
70°	155.3	187.8	208.3	204.8	197.7	187.8	182.6	179.8	176.7	173.5	167.2
72.5°	117.2	137.1	156.1	159.2	153.7	153.7	149.3	148.5	147.0	143.0	140.2
75°	82.8	98.2	111.7	116.8	119.2	121.2	119.2	118.8	118.4	115.3	113.3
77.5°	57.4	67.3	76.4	85.6	88.7	91.5	91.9	93.5	92.3	90.3	89.5
80°	41.6	43.6	49.5	57.0	63.0	65.4	66.9	67.7	67.3	66.9	65.4
82.5°	27.3	28.9	30.9	35.6	40.4	44.8	45.6	45.2	46.3	46.7	45.6
85°	16.2	16.6	17.4	18.2	21.0	25.4	26.5	27.3	28.1	28.1	25.7
87.5°	6.3	5.9	6.7	6.7	7.9	8.3	10.7	12.7	13.1	11.5	11.5
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: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3	925.3
2.5°	905.5	900.3	896.8	888.8	883.7	878.2	872.6	876.2	875.8	875.4	875.4
5°	878.9	869.8	861.5	850.8	844.1	835.8	829.4	828.6	830.2	824.7	821.5
7.5°	854.0	842.1	830.2	819.1	806.9	797.3	791.4	789.0	784.7	781.1	777.9
10°	827.5	812.8	801.3	786.7	773.2	761.3	753.8	748.6	745.9	743.1	737.9
12.5°	800.1	785.9	770.4	753.4	740.7	726.4	721.3	715.4	709.4	706.2	698.7
15°	773.6	755.0	739.5	722.1	707.8	694.4	686.4	675.0	673.4	669.4	662.3
17.5°	747.8	727.2	704.7	692.8	678.5	664.3	651.6	648.0	636.1	632.2	625.4
20°	716.1	697.5	681.3	664.3	640.9	627.8	618.3	613.2	604.1	598.5	594.5
22.5°	688.8	669.8	650.4	629.8	611.6	596.5	590.2	581.5	577.5	569.2	564.8
25°	663.1	642.5	619.9	598.5	584.6	573.6	562.5	555.3	548.2	544.6	536.7
27.5°	631.8	611.2	589.4	572.8	556.9	545.8	535.1	529.2	520.1	514.1	509.8
30°	606.8	581.5	563.3	548.6	526.8	516.5	509.0	501.1	494.7	488.4	484.0
32.5°	577.9	555.3	538.3	519.3	503.8	492.4	482.1	475.3	470.2	464.2	459.9
35°	547.4	528.0	510.2	492.0	479.7	468.2	456.7	450.8	445.6	440.1	436.1
37.5°	519.7	501.5	484.8	467.4	452.3	442.4	432.9	429.0	421.8	417.9	413.9
40°	494.3	476.5	458.3	441.7	425.8	418.7	410.4	403.6	397.3	394.5	390.2
42.5°	466.6	448.8	434.1	415.9	403.6	393.3	385.8	378.3	373.9	369.6	367.6
45°	439.3	423.4	408.4	390.6	378.3	370.0	361.2	354.5	350.2	347.4	343.0
47.5°	413.1	396.9	381.8	366.0	354.1	344.6	335.5	331.1	325.2	322.0	318.9
50°	384.2	370.0	353.7	339.5	327.6	318.1	310.9	305.0	299.8	295.5	293.5
52.5°	357.7	342.2	328.8	315.7	303.0	291.9	285.6	279.2	275.7	270.5	268.2
55°	328.0	313.3	301.4	288.4	276.1	267.0	259.0	253.5	249.5	244.0	240.8
57.5°	300.6	288.0	273.3	261.8	248.8	241.6	234.9	227.0	222.2	217.9	214.7
60°	272.9	257.9	245.6	234.9	223.8	213.9	208.0	202.0	196.9	192.5	189.7
62.5°	244.0	231.3	219.8	208.0	198.0	189.7	182.6	177.8	173.5	171.1	168.3
65°	214.3	204.0	192.1	182.6	173.1	166.8	161.2	156.9	153.7	151.7	149.3
67.5°	187.0	177.1	166.4	156.5	150.1	145.0	141.0	137.1	135.5	133.1	131.5
70°	160.4	150.1	141.0	133.9	127.5	124.0	121.6	118.8	117.2	114.1	112.5
72.5°	131.5	124.8	118.8	113.3	108.5	105.4	102.2	98.6	95.9	92.3	90.7
75°	108.1	101.4	96.3	92.3	89.1	84.8	80.4	76.8	75.7	74.5	74.1
77.5°	84.4	80.0	76.1	72.9	68.5	64.6	63.4	62.6	62.2	61.4	61.4
80°	63.0	59.0	56.2	52.3	49.9	49.9	49.9	49.1	49.5	49.5	49.5
82.5°	42.8	39.2	38.0	37.2	37.2	37.6	37.6	38.0	37.6	38.4	38.0
85°	24.2	24.6	25.4	25.0	25.4	25.4	26.1	25.7	26.1	25.4	26.1
87.5°	11.1	12.3	12.7	13.1	13.5	13.1	13.5	13.5	13.9	13.9	13.9
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: P242561

CATALOG NUMBER: S123RDR-S775D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	925.3	925.3	925.3	925.3
2.5°	870.6	870.2	870.6	869.0
5°	820.3	819.9	818.7	815.2
7.5°	774.8	774.0	770.8	771.6
10°	735.2	735.6	730.8	728.0
12.5°	696.7	694.4	690.8	687.6
15°	663.9	659.9	650.4	651.2
17.5°	623.1	619.9	619.5	614.0
20°	588.2	586.2	587.0	581.5
22.5°	560.9	558.9	554.5	553.7
25°	534.3	531.2	528.0	530.0
27.5°	507.4	505.0	501.5	501.5
30°	482.1	479.7	478.1	476.1
32.5°	456.3	456.3	453.1	453.1
35°	434.5	432.1	431.4	431.7
37.5°	413.5	410.4	408.8	407.2
40°	390.6	387.4	386.6	385.8
42.5°	364.8	364.0	363.6	362.0
45°	341.8	341.4	339.1	339.9
47.5°	317.3	315.3	314.1	315.3
50°	291.9	291.1	287.6	288.4
52.5°	266.6	263.0	262.2	261.4
55°	238.1	234.5	232.9	232.1
57.5°	209.9	208.7	207.2	208.3
60°	185.8	185.8	185.8	185.4
62.5°	167.2	166.0	165.6	166.4
65°	148.1	147.7	146.2	145.8
67.5°	130.7	129.1	129.1	128.3
70°	110.5	109.7	107.3	107.7
72.5°	88.7	87.9	87.9	87.1
75°	73.7	73.3	72.9	74.5
77.5°	61.4	61.4	61.8	61.0
80°	49.5	49.5	49.1	49.1
82.5°	37.2	37.6	38.0	37.2
85°	26.1	25.7	26.5	26.1
87.5°	14.7	13.9	13.9	14.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)