

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: P243593

Luminaire Tested: **S124RDR-H795D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243593
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-70)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-H795D927-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2451.1 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.23 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

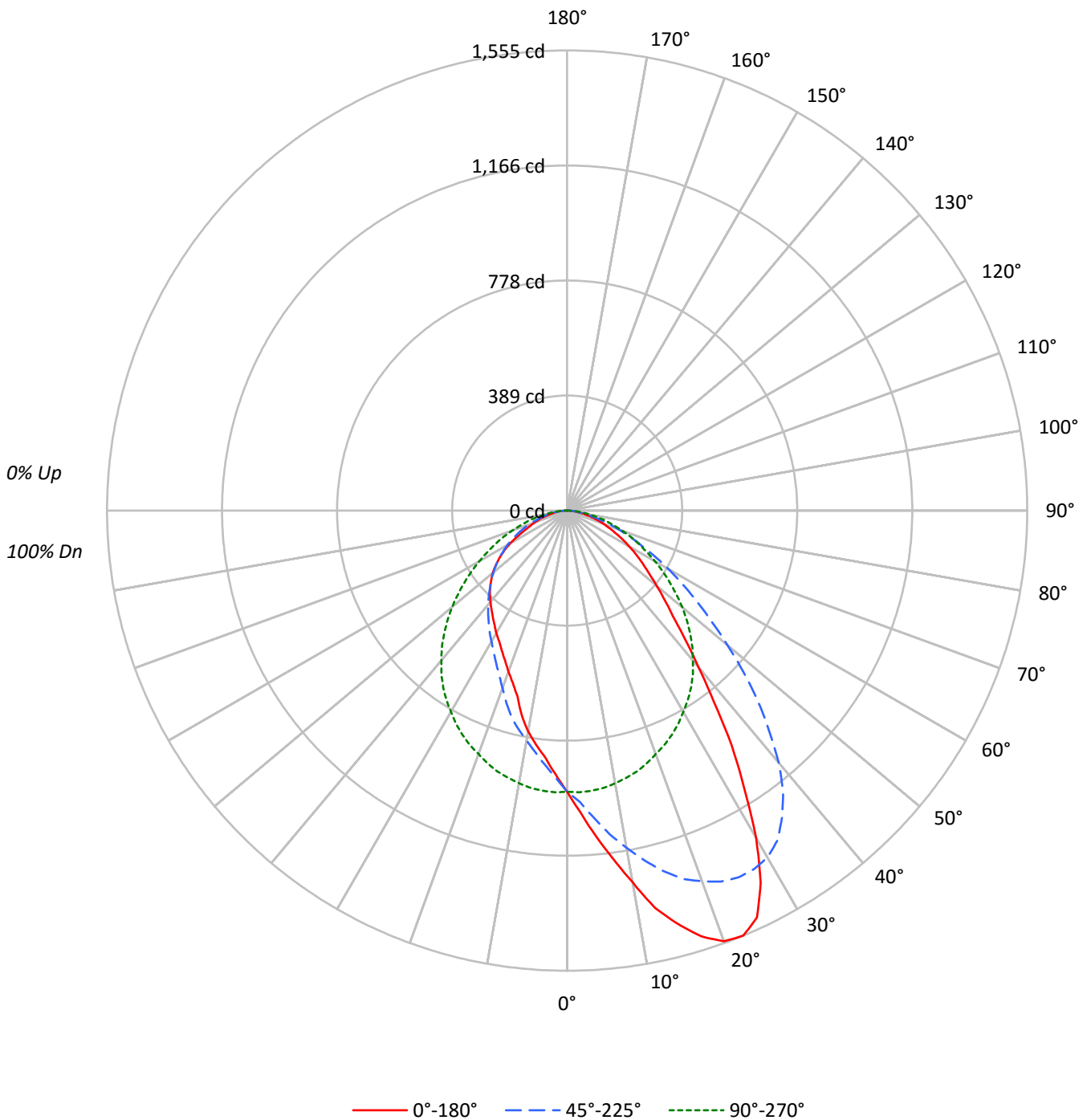
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243593

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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	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	68	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44	42
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40	38
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	39	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8442	8442	8442
5°	9834	8478	7484
10°	11516	8442	6843
15°	13307	8399	5976
20°	14651	8281	5478
25°	14886	8204	5122
30°	13103	8058	4912
35°	10514	7921	4752
40°	7998	7669	4677
45°	6351	7387	4621
50°	5451	7022	4541
55°	4815	6568	4321
60°	4313	6094	3957
65°	3796	5633	3330
70°	3384	5112	2999
75°	2947	4650	2669
80°	2498	3993	2462
85°	2183	3437	2489



TEST NUMBER: P243593

CATALOG NUMBER: S124RDR-H795D927-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	3.8
10°-20°	279.5	11.4
20°-30°	436.1	17.8
30°-40°	486.3	19.8
40°-50°	437.2	17.8
50°-60°	345.4	14.1
60°-70°	229.4	9.4
70°-80°	115.0	4.7
80°-90°	30.0	1.2
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°	807.7	33.0
0°-40°	1294.1	52.8
0°-60°	2076.7	84.7
0°-90°	2451.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2451.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	950	950	950	950	950	
5°	1102	1042	950	862	839	110
15°	1446	1262	913	723	649	411
25°	1518	1368	836	568	522	679
35°	969	1266	730	462	438	602
45°	505	912	588	370	368	400
55°	311	536	424	280	279	280
65°	180	274	268	183	158	181
75°	86	109	135	91	78	92
85°	21	23	34	25	24	24
90°	0	0	0	0	0	



TEST NUMBER: P243593

CATALOG NUMBER: S124RDR-H795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7
2.5°	1020.0	1016.3	1015.9	1011.1	1010.7	1005.9	1004.4	1000.4	992.2	985.9	986.3
5°	1102.1	1099.1	1098.7	1093.9	1092.5	1086.5	1077.3	1066.2	1053.3	1042.5	1035.5
7.5°	1186.4	1191.6	1186.0	1186.0	1175.3	1168.3	1150.1	1140.9	1118.7	1103.2	1086.9
10°	1275.9	1280.7	1278.5	1274.0	1260.0	1245.6	1226.7	1208.6	1181.6	1157.2	1140.9
12.5°	1375.7	1361.3	1370.6	1356.9	1345.4	1322.5	1304.4	1268.1	1246.7	1211.2	1179.4
15°	1446.0	1440.5	1440.1	1430.8	1418.3	1393.1	1373.5	1335.8	1299.2	1261.8	1226.0
17.5°	1508.9	1509.6	1504.4	1489.6	1473.4	1449.0	1422.3	1388.7	1346.9	1305.5	1262.9
20°	1548.8	1549.2	1545.5	1537.7	1520.0	1497.8	1470.4	1426.4	1379.1	1333.2	1290.7
22.5°	1554.7	1555.8	1554.7	1549.9	1537.7	1519.6	1494.5	1457.1	1409.4	1356.9	1306.2
25°	1517.8	1521.4	1521.8	1528.5	1522.2	1515.2	1496.7	1465.2	1421.2	1368.0	1312.9
27.5°	1416.4	1426.8	1436.4	1448.2	1458.9	1468.6	1470.0	1453.4	1415.7	1366.1	1313.6
30°	1276.6	1288.8	1308.1	1320.6	1353.9	1375.0	1403.5	1409.8	1391.6	1353.5	1302.9
32.5°	1113.9	1126.8	1134.2	1175.7	1223.4	1257.8	1305.1	1333.2	1340.2	1322.1	1280.7
35°	968.9	971.2	976.7	1023.7	1071.0	1123.2	1182.0	1230.8	1264.1	1265.9	1245.6
37.5°	813.6	816.2	838.0	873.9	914.9	972.3	1039.9	1109.5	1170.5	1198.6	1192.7
40°	689.3	688.6	711.9	743.0	782.9	842.5	912.4	988.2	1053.3	1112.1	1126.1
42.5°	588.8	591.3	611.3	629.4	667.9	709.7	784.4	863.2	946.7	1011.1	1054.0
45°	505.2	511.8	525.5	542.5	571.4	609.8	670.9	749.3	834.7	912.0	963.4
47.5°	447.5	449.3	456.4	477.4	496.7	527.7	579.9	646.4	722.3	808.8	876.5
50°	394.2	398.7	401.3	413.8	432.7	462.3	502.6	552.1	627.2	706.7	791.4
52.5°	348.4	351.0	355.8	367.2	382.0	402.7	434.5	478.2	540.7	614.3	694.2
55°	310.7	311.0	315.8	324.0	335.4	351.3	381.7	413.1	468.6	535.5	608.0
57.5°	276.6	274.4	278.8	283.7	294.7	308.4	328.0	360.2	403.5	460.4	525.9
60°	242.6	244.5	244.1	249.6	255.5	269.2	285.9	307.0	342.5	394.6	450.1
62.5°	210.8	210.4	214.1	217.5	221.5	232.6	246.3	263.7	291.4	329.9	383.5
65°	180.5	181.2	184.2	186.8	191.2	198.2	208.6	222.6	244.8	274.4	319.5
67.5°	153.1	155.7	157.2	157.9	162.0	167.2	176.0	187.5	202.7	226.3	264.1
70°	130.2	130.9	131.7	134.2	136.1	139.1	145.7	152.0	165.7	183.1	210.4
72.5°	108.7	108.0	110.2	110.9	111.7	114.6	118.7	122.0	130.9	145.7	162.7
75°	85.8	86.2	86.5	87.6	90.6	91.0	92.8	96.5	102.8	108.7	120.2
77.5°	64.3	65.5	65.1	66.2	67.3	68.4	69.2	72.5	76.9	81.7	87.3
80°	48.8	48.8	48.8	49.6	48.8	51.4	51.4	52.5	53.6	55.8	59.9
82.5°	33.3	34.0	34.4	34.8	35.1	35.1	35.5	36.2	37.7	38.5	39.6
85°	21.4	20.7	21.1	21.1	21.1	21.1	21.8	22.6	22.6	22.9	24.0
87.5°	9.6	9.6	9.6	9.6	9.2	9.6	10.0	10.0	10.4	10.4	11.1
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: P243593

CATALOG NUMBER: S124RDR-H795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7
2.5°	984.1	983.0	977.4	971.5	966.0	960.4	958.6	953.0	946.4	940.5	933.8
5°	1028.1	1019.2	1007.0	994.5	981.5	969.7	960.4	950.1	938.2	924.2	913.1
7.5°	1072.5	1056.2	1036.2	1017.8	995.6	977.8	960.1	945.3	928.3	908.3	893.1
10°	1115.8	1088.8	1064.3	1035.1	1007.0	982.6	960.1	935.3	912.7	891.3	870.2
12.5°	1150.1	1123.2	1088.0	1052.1	1015.9	984.1	953.8	924.6	896.4	870.6	847.3
15°	1189.3	1150.5	1107.2	1067.7	1018.1	978.9	944.2	912.7	880.5	849.1	823.6
17.5°	1218.2	1172.3	1118.7	1073.2	1025.5	976.7	934.9	895.3	858.4	825.4	799.2
20°	1240.4	1186.0	1132.4	1074.7	1017.8	967.8	920.9	875.4	838.0	802.1	774.4
22.5°	1250.0	1192.7	1133.1	1070.6	1010.0	953.4	904.6	857.6	815.5	778.5	746.3
25°	1254.1	1191.2	1129.4	1058.4	997.0	939.3	885.0	836.5	793.3	751.5	719.7
27.5°	1250.7	1183.4	1112.4	1045.5	976.0	919.4	861.7	812.5	767.4	727.1	691.6
30°	1241.9	1165.7	1095.0	1020.0	953.0	893.5	837.3	785.1	739.6	698.6	663.5
32.5°	1218.9	1145.7	1065.5	992.2	920.1	861.3	810.3	758.9	712.6	669.7	635.7
35°	1190.5	1118.7	1034.8	958.2	886.8	827.3	775.9	730.0	684.5	639.1	604.3
37.5°	1154.6	1081.7	1000.7	918.3	848.4	790.7	743.7	697.5	652.4	610.6	571.7
40°	1106.1	1039.6	958.2	875.4	805.1	749.6	703.4	660.9	620.9	579.9	538.1
42.5°	1045.9	995.2	911.2	829.5	760.7	705.6	664.6	626.5	588.0	545.9	508.1
45°	981.5	938.2	862.1	779.6	714.1	660.5	621.3	587.6	551.4	514.1	474.5
47.5°	909.0	876.8	811.0	729.3	660.5	614.6	578.4	547.7	514.8	481.5	443.0
50°	827.3	807.7	751.5	677.1	611.7	565.1	535.1	507.8	479.7	446.4	413.5
52.5°	745.6	741.9	689.3	623.9	562.1	518.9	489.6	464.5	441.6	410.1	382.4
55°	659.8	670.9	627.2	566.9	511.8	470.0	444.2	423.8	403.8	377.2	350.6
57.5°	583.6	596.2	566.2	510.7	459.3	423.8	401.6	383.1	365.8	341.3	323.6
60°	499.3	522.2	506.3	455.6	410.1	378.3	357.6	342.8	328.4	307.3	291.8
62.5°	432.7	448.6	439.3	401.6	361.3	335.4	316.9	303.3	291.8	275.5	260.4
65°	361.3	381.3	376.5	351.7	316.2	292.5	278.5	267.8	255.9	243.0	230.4
67.5°	297.0	317.7	316.6	299.6	273.3	253.7	240.4	232.6	223.0	210.4	202.7
70°	238.9	258.1	258.9	250.4	231.9	213.4	203.8	196.7	189.3	180.1	174.6
72.5°	185.7	203.0	206.0	201.9	190.1	177.9	169.4	164.6	158.3	150.5	145.7
75°	138.7	151.3	158.3	156.4	151.6	143.5	138.7	135.4	129.1	123.5	119.5
77.5°	98.7	108.7	115.8	118.7	116.5	113.2	108.7	106.1	99.5	96.9	94.7
80°	66.2	75.1	81.4	83.2	84.3	83.6	79.5	78.0	74.7	73.6	71.4
82.5°	40.7	45.5	49.9	54.7	57.0	57.0	54.7	55.1	52.1	50.7	49.9
85°	24.8	25.9	26.6	30.3	33.3	34.4	33.3	33.7	32.5	31.4	30.3
87.5°	11.5	11.5	11.8	12.6	13.3	15.5	16.3	17.4	15.9	15.9	13.3
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: P243593

CATALOG NUMBER: S124RDR-H795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7	949.7
2.5°	929.7	924.9	921.2	915.3	910.5	902.7	900.1	900.1	901.6	899.8	901.6
5°	905.3	896.4	886.8	878.3	869.1	862.4	855.8	854.3	853.5	849.1	849.5
7.5°	880.9	869.1	856.9	845.8	834.3	824.0	816.9	814.0	811.4	808.4	805.1
10°	854.7	841.0	826.6	814.0	802.9	788.8	781.8	779.6	772.2	770.7	765.5
12.5°	826.9	812.9	798.4	782.2	771.4	757.8	747.4	742.6	735.6	730.4	722.6
15°	805.1	787.4	768.1	752.2	738.2	723.0	708.9	699.7	690.5	676.0	669.0
17.5°	778.1	757.8	741.1	724.1	703.8	681.6	664.9	651.3	641.3	629.4	622.4
20°	748.9	730.0	709.3	685.3	663.8	638.7	623.5	612.1	604.3	597.3	593.6
22.5°	723.0	701.2	672.7	649.8	619.8	599.9	587.6	580.3	572.9	565.5	561.8
25°	694.9	669.4	634.6	606.5	583.9	568.4	556.6	549.6	541.8	537.4	531.8
27.5°	667.2	634.2	599.5	574.0	556.2	538.1	528.1	522.6	516.6	510.4	505.9
30°	633.5	596.2	567.3	544.0	526.3	511.1	503.7	495.6	490.4	486.7	484.1
32.5°	598.4	562.5	536.2	516.3	498.9	487.4	478.2	473.0	468.6	464.5	461.5
35°	565.5	530.7	508.5	489.3	474.9	461.9	454.9	450.1	446.4	443.0	441.6
37.5°	532.9	503.3	479.3	464.1	449.0	438.6	432.0	427.5	425.3	422.0	422.3
40°	500.7	474.1	454.9	437.5	423.4	414.6	409.4	407.5	404.2	403.1	404.2
42.5°	471.9	447.5	429.0	412.7	400.5	392.0	387.9	385.4	384.2	383.9	384.2
45°	443.8	420.9	403.1	389.8	377.2	369.5	366.1	364.3	363.2	365.0	365.4
47.5°	415.7	395.0	379.1	363.5	353.2	347.6	344.3	342.8	343.9	344.7	347.3
50°	387.9	368.7	352.1	338.4	330.3	325.1	324.0	321.4	323.2	324.3	326.2
52.5°	359.8	342.5	327.7	314.7	306.2	302.9	300.3	299.2	301.8	301.8	303.6
55°	331.4	316.2	302.5	290.7	284.0	280.0	278.1	276.6	278.1	278.5	278.1
57.5°	304.7	290.3	275.9	265.9	260.4	255.9	254.1	253.3	253.0	254.4	254.1
60°	276.6	262.9	251.5	241.1	235.6	233.0	228.9	229.7	229.7	229.7	226.0
62.5°	248.5	234.8	224.9	217.8	211.2	206.7	206.0	204.9	202.7	202.3	197.5
65°	219.7	209.3	200.8	193.8	187.1	183.4	182.3	179.0	176.4	171.6	168.3
67.5°	193.0	185.7	175.7	169.7	164.2	159.8	155.7	153.1	147.9	143.1	140.2
70°	166.4	158.7	152.0	145.7	140.2	136.1	131.3	126.5	123.2	120.2	118.0
72.5°	139.8	133.1	127.6	121.7	115.8	111.7	108.0	104.3	102.8	101.3	100.2
75°	115.0	108.7	103.6	98.7	95.4	90.6	88.8	87.3	85.8	83.9	81.7
77.5°	91.0	86.2	82.1	78.0	75.1	72.5	71.0	66.6	62.9	62.1	61.4
80°	67.7	64.0	61.4	58.4	55.1	51.4	50.3	48.8	48.1	48.1	48.4
82.5°	47.3	45.1	42.2	39.6	38.5	37.0	37.0	36.6	36.2	36.6	36.6
85°	28.8	25.9	25.1	24.8	25.1	25.1	25.1	25.1	24.8	25.1	24.4
87.5°	12.6	13.7	14.1	12.9	13.3	12.6	12.9	12.9	12.9	13.3	12.9
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: P243593

CATALOG NUMBER: S124RDR-H795D927-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	949.7	949.7	949.7	949.7
2.5°	899.4	899.4	895.7	892.8
5°	848.7	843.9	843.2	838.8
7.5°	801.4	800.7	798.8	798.8
10°	763.7	761.1	758.5	758.1
12.5°	710.4	714.1	709.7	708.6
15°	663.8	660.9	657.2	649.4
17.5°	620.6	615.0	613.5	610.2
20°	586.5	582.5	581.0	579.1
22.5°	554.4	553.6	549.2	548.1
25°	530.7	527.0	524.0	522.2
27.5°	504.8	502.2	500.7	497.8
30°	481.1	480.4	478.6	478.6
32.5°	459.7	457.5	457.5	457.1
35°	440.1	440.8	438.6	437.9
37.5°	421.6	420.5	420.9	420.1
40°	403.5	402.7	402.7	403.1
42.5°	385.0	385.4	386.1	386.1
45°	366.5	366.9	367.6	367.6
47.5°	349.1	348.4	349.1	348.4
50°	326.9	329.1	328.8	328.4
52.5°	304.4	303.6	305.1	304.7
55°	280.0	278.8	280.3	278.8
57.5°	252.6	253.0	253.0	252.2
60°	225.2	224.1	222.6	222.6
62.5°	193.4	190.1	187.9	189.3
65°	162.7	160.1	159.4	158.3
67.5°	138.3	135.4	134.2	133.9
70°	117.2	115.8	115.4	115.4
72.5°	99.5	99.5	98.4	97.6
75°	81.0	79.5	77.7	77.7
77.5°	60.7	60.3	59.9	59.9
80°	47.3	47.3	47.7	48.1
82.5°	35.5	35.9	36.2	36.2
85°	24.0	24.0	24.4	24.4
87.5°	12.9	12.9	12.9	12.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)