

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: P243613

Luminaire Tested: **S124RDR-H795D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243613
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-H795D930-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2522.6 lumens
Efficiency: N/A
Efficacy: 106.9 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

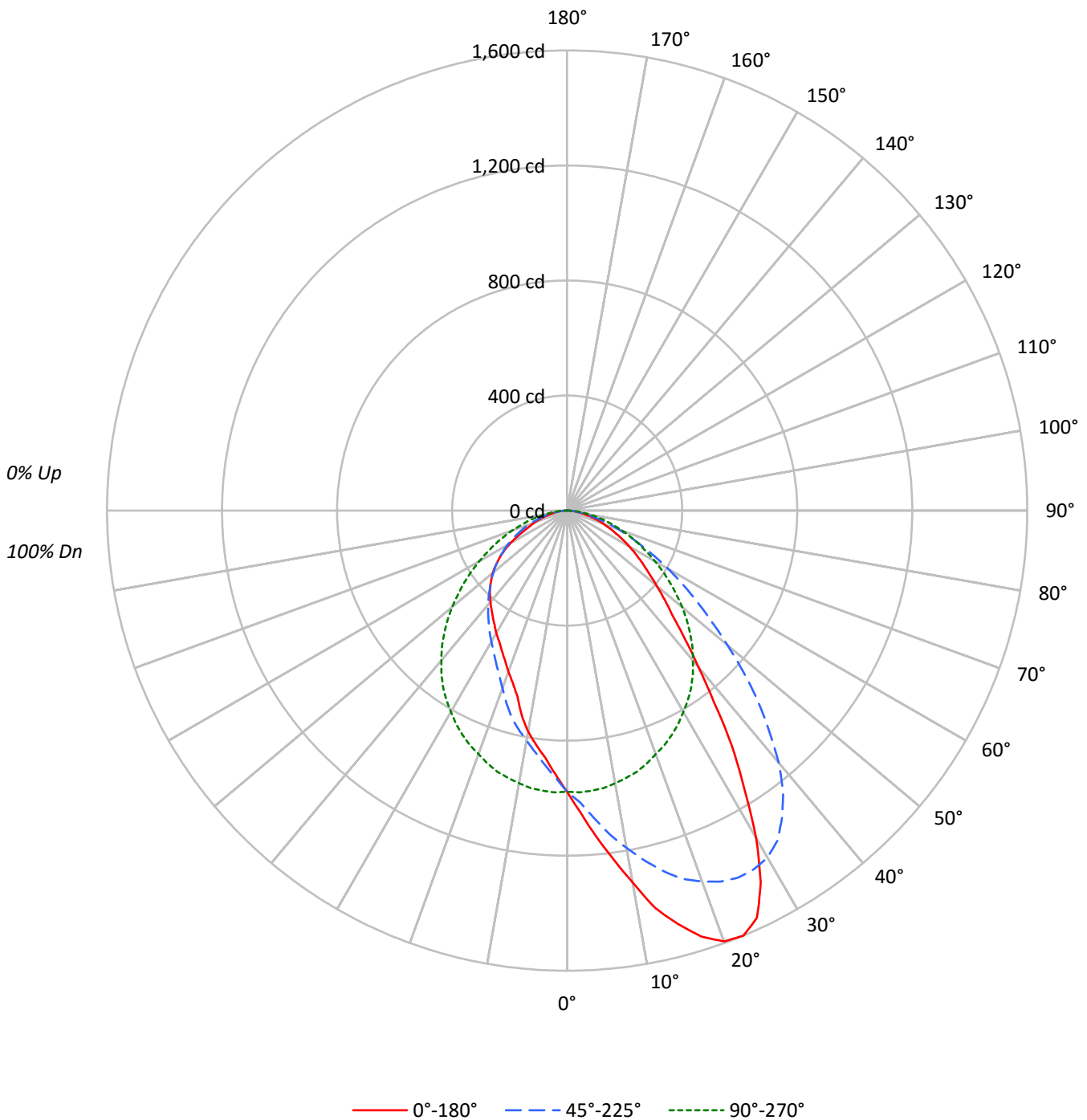
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8688	8688	8688
5°	10120	8725	7702
10°	11852	8688	7043
15°	13695	8645	6151
20°	15078	8522	5638
25°	15320	8444	5271
30°	13486	8293	5055
35°	10821	8153	4890
40°	8233	7893	4814
45°	6536	7603	4756
50°	5610	7227	4674
55°	4955	6760	4448
60°	4439	6272	4073
65°	3906	5797	3426
70°	3483	5263	3088
75°	3033	4784	2744
80°	2570	4110	2534
85°	2254	3529	2560



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.8	3.8
10°-20°	287.6	11.4
20°-30°	448.9	17.8
30°-40°	500.5	19.8
40°-50°	449.9	17.8
50°-60°	355.5	14.1
60°-70°	236.1	9.4
70°-80°	118.4	4.7
80°-90°	30.8	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°	831.3	33.0
0°-40°	1331.8	52.8
0°-60°	2137.3	84.7
0°-90°	2522.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2522.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	977	977	977	977	977	
5°	1134	1073	978	888	863	114
15°	1488	1299	939	744	668	423
25°	1562	1408	861	585	537	699
35°	997	1303	751	475	451	620
45°	520	939	605	380	378	412
55°	320	551	436	288	287	288
65°	186	282	276	189	163	186
75°	88	112	139	93	80	94
85°	22	24	35	26	25	25
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°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	1049.7	1045.9	1045.5	1040.6	1040.2	1035.3	1033.7	1029.6	1021.2	1014.7	1015.1
5°	1134.2	1131.2	1130.8	1125.9	1124.3	1118.2	1108.7	1097.3	1084.0	1073.0	1065.7
7.5°	1221.0	1226.3	1220.6	1220.6	1209.6	1202.4	1183.7	1174.2	1151.4	1135.4	1118.6
10°	1313.1	1318.1	1315.8	1311.2	1296.8	1281.9	1262.5	1243.8	1216.1	1190.9	1174.2
12.5°	1415.9	1401.0	1410.6	1396.5	1384.7	1361.1	1342.4	1305.1	1283.1	1246.5	1213.8
15°	1488.2	1482.5	1482.1	1472.6	1459.7	1433.8	1413.6	1374.8	1337.1	1298.7	1261.7
17.5°	1552.9	1553.7	1548.3	1533.1	1516.4	1491.2	1463.8	1429.2	1386.2	1343.6	1299.8
20°	1594.0	1594.4	1590.6	1582.6	1564.3	1541.5	1513.3	1468.0	1419.3	1372.1	1328.3
22.5°	1600.1	1601.2	1600.1	1595.2	1582.6	1563.9	1538.1	1499.6	1450.5	1396.5	1344.3
25°	1562.0	1565.8	1566.2	1573.1	1566.6	1559.4	1540.3	1508.0	1462.7	1407.9	1351.2
27.5°	1457.8	1468.4	1478.3	1490.5	1501.5	1511.4	1512.9	1495.8	1457.0	1406.0	1351.9
30°	1313.9	1326.4	1346.2	1359.2	1393.4	1415.1	1444.4	1450.9	1432.3	1393.0	1340.9
32.5°	1146.4	1159.7	1167.3	1210.0	1259.1	1294.5	1343.2	1372.1	1379.3	1360.7	1318.1
35°	997.2	999.5	1005.2	1053.5	1102.3	1155.9	1216.4	1266.7	1300.9	1302.8	1281.9
37.5°	837.4	840.0	862.5	899.4	941.6	1000.6	1070.3	1141.8	1204.6	1233.6	1227.5
40°	709.5	708.7	732.7	764.7	805.8	867.0	939.0	1017.0	1084.0	1144.5	1159.0
42.5°	605.9	608.6	629.2	647.8	687.4	730.4	807.3	888.4	974.4	1040.6	1084.8
45°	519.9	526.8	540.9	558.4	588.0	627.6	690.4	771.1	859.0	938.6	991.5
47.5°	460.5	462.4	469.7	491.4	511.2	543.1	596.8	665.3	743.3	832.4	902.1
50°	405.7	410.3	413.0	425.9	445.3	475.8	517.3	568.3	645.5	727.4	814.5
52.5°	358.5	361.2	366.2	377.9	393.2	414.5	447.2	492.1	556.5	632.2	714.4
55°	319.7	320.1	325.0	333.4	345.2	361.6	392.8	425.1	482.2	551.1	625.7
57.5°	284.7	282.4	287.0	291.9	303.3	317.4	337.6	370.7	415.3	473.9	541.2
60°	249.7	251.6	251.2	256.9	263.0	277.1	294.2	315.9	352.4	406.1	463.2
62.5°	217.0	216.6	220.4	223.8	228.0	239.4	253.5	271.4	299.9	339.5	394.7
65°	185.7	186.5	189.5	192.2	196.8	204.0	214.7	229.1	252.0	282.4	328.9
67.5°	157.6	160.2	161.8	162.5	166.7	172.0	181.2	193.0	208.6	232.9	271.8
70°	134.0	134.7	135.5	138.2	140.1	143.1	150.0	156.4	170.5	188.4	216.6
72.5°	111.9	111.1	113.4	114.2	114.9	118.0	122.2	125.6	134.7	150.0	167.5
75°	88.3	88.7	89.1	90.2	93.3	93.6	95.5	99.3	105.8	111.9	123.7
77.5°	66.2	67.4	67.0	68.1	69.3	70.4	71.2	74.6	79.2	84.1	89.8
80°	50.2	50.2	50.2	51.0	50.2	52.9	52.9	54.0	55.2	57.5	61.7
82.5°	34.3	35.0	35.4	35.8	36.2	36.2	36.5	37.3	38.8	39.6	40.7
85°	22.1	21.3	21.7	21.7	21.7	21.7	22.5	23.2	23.2	23.6	24.7
87.5°	9.9	9.9	9.9	9.9	9.5	9.9	10.3	10.3	10.7	10.7	11.4
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°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	1012.8	1011.7	1006.0	999.9	994.2	988.5	986.6	980.8	974.0	967.9	961.1
5°	1058.1	1049.0	1036.4	1023.5	1010.2	998.0	988.5	977.8	965.6	951.2	939.7
7.5°	1103.8	1087.0	1066.5	1047.5	1024.6	1006.3	988.1	972.9	955.3	934.8	919.2
10°	1148.3	1120.5	1095.4	1065.3	1036.4	1011.3	988.1	962.6	939.4	917.3	895.6
12.5°	1183.7	1155.9	1119.8	1082.8	1045.5	1012.8	981.6	951.5	922.6	896.0	872.0
15°	1224.1	1184.1	1139.6	1098.8	1047.8	1007.5	971.7	939.4	906.2	873.9	847.6
17.5°	1253.7	1206.5	1151.4	1104.5	1055.4	1005.2	962.2	921.5	883.4	849.5	822.5
20°	1276.6	1220.6	1165.4	1106.1	1047.5	996.1	947.7	900.9	862.5	825.6	797.0
22.5°	1286.5	1227.5	1166.2	1101.9	1039.5	981.2	931.0	882.6	839.3	801.2	768.1
25°	1290.7	1226.0	1162.4	1089.3	1026.1	966.8	910.8	860.9	816.4	773.4	740.7
27.5°	1287.2	1218.0	1144.9	1076.0	1004.4	946.2	886.8	836.2	789.8	748.3	711.7
30°	1278.1	1199.7	1127.0	1049.7	980.8	919.6	861.7	808.0	761.2	719.0	682.8
32.5°	1254.5	1179.1	1096.5	1021.2	947.0	886.5	833.9	781.0	733.4	689.3	654.3
35°	1225.2	1151.4	1065.0	986.2	912.7	851.4	798.5	751.3	704.5	657.7	621.9
37.5°	1188.3	1113.3	1029.9	945.1	873.1	813.8	765.4	717.8	671.4	628.4	588.4
40°	1138.4	1069.9	986.2	900.9	828.6	771.5	723.9	680.2	639.1	596.8	553.8
42.5°	1076.4	1024.2	937.8	853.7	782.9	726.2	684.0	644.8	605.2	561.8	523.0
45°	1010.2	965.6	887.2	802.3	735.0	679.8	639.4	604.8	567.5	529.1	488.3
47.5°	935.5	902.4	834.7	750.6	679.8	632.6	595.3	563.7	529.8	495.6	456.0
50°	851.4	831.3	773.4	696.9	629.5	581.6	550.7	522.6	493.7	459.4	425.5
52.5°	767.3	763.5	709.5	642.1	578.5	534.0	503.9	478.1	454.5	422.1	393.6
55°	679.0	690.4	645.5	583.5	526.8	483.8	457.1	436.2	415.6	388.2	360.8
57.5°	600.6	613.6	582.7	525.6	472.7	436.2	413.3	394.3	376.4	351.3	333.0
60°	513.8	537.4	521.1	468.9	422.1	389.4	368.1	352.8	338.0	316.3	300.3
62.5°	445.3	461.7	452.2	413.3	371.9	345.2	326.2	312.1	300.3	283.6	268.0
65°	371.9	392.4	387.5	362.0	325.4	301.1	286.6	275.6	263.4	250.1	237.1
67.5°	305.6	326.9	325.8	308.3	281.3	261.1	247.4	239.4	229.5	216.6	208.6
70°	245.9	265.7	266.4	257.7	238.6	219.6	209.7	202.5	194.9	185.4	179.6
72.5°	191.1	209.0	212.0	207.8	195.6	183.1	174.3	169.4	162.9	154.9	150.0
75°	142.7	155.7	162.9	161.0	156.1	147.7	142.7	139.3	132.8	127.1	122.9
77.5°	101.6	111.9	119.1	122.2	119.9	116.5	111.9	109.2	102.4	99.7	97.4
80°	68.1	77.3	83.7	85.6	86.8	86.0	81.8	80.3	76.9	75.7	73.5
82.5°	41.9	46.8	51.4	56.3	58.6	58.6	56.3	56.7	53.7	52.1	51.4
85°	25.5	26.6	27.4	31.2	34.3	35.4	34.3	34.6	33.5	32.4	31.2
87.5°	11.8	11.8	12.2	12.9	13.7	16.0	16.7	17.9	16.4	16.4	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°	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4	977.4
2.5°	956.9	951.9	948.1	942.0	937.1	929.1	926.4	926.4	927.9	926.0	927.9
5°	931.7	922.6	912.7	904.0	894.4	887.6	880.7	879.2	878.5	873.9	874.3
7.5°	906.6	894.4	881.9	870.5	858.7	848.0	840.8	837.7	835.1	832.0	828.6
10°	879.6	865.5	850.7	837.7	826.3	811.9	804.6	802.3	794.7	793.2	787.9
12.5°	851.1	836.6	821.7	805.0	794.0	779.9	769.2	764.3	757.0	751.7	743.7
15°	828.6	810.3	790.5	774.2	759.7	744.1	729.6	720.1	710.6	695.8	688.5
17.5°	800.8	779.9	762.8	745.2	724.3	701.5	684.3	670.3	660.0	647.8	640.6
20°	770.7	751.3	730.0	705.3	683.2	657.3	641.7	629.9	621.9	614.7	610.9
22.5°	744.1	721.6	692.3	668.7	637.9	617.4	604.8	597.2	589.6	582.0	578.2
25°	715.2	688.9	653.1	624.2	601.0	585.0	572.8	565.6	557.6	553.0	547.3
27.5°	686.6	652.8	617.0	590.7	572.4	553.8	543.5	537.8	531.7	525.2	520.7
30°	652.0	613.6	583.9	559.9	541.6	526.0	518.4	510.0	504.7	500.9	498.2
32.5°	615.8	578.9	551.9	531.3	513.4	501.6	492.1	486.8	482.2	478.1	475.0
35°	582.0	546.2	523.3	503.6	488.7	475.4	468.2	463.2	459.4	456.0	454.5
37.5°	548.5	518.0	493.3	477.7	462.1	451.4	444.6	440.0	437.7	434.3	434.7
40°	515.4	487.9	468.2	450.3	435.8	426.7	421.3	419.4	416.0	414.9	416.0
42.5°	485.7	460.5	441.5	424.8	412.2	403.5	399.3	396.6	395.5	395.1	395.5
45°	456.7	433.1	414.9	401.2	388.2	380.2	376.8	374.9	373.8	375.7	376.0
47.5°	427.8	406.5	390.1	374.1	363.5	357.8	354.4	352.8	354.0	354.7	357.4
50°	399.3	379.5	362.3	348.3	339.9	334.6	333.4	330.8	332.7	333.8	335.7
52.5°	370.3	352.4	337.2	323.9	315.1	311.7	309.1	307.9	310.6	310.6	312.5
55°	341.0	325.4	311.3	299.2	292.3	288.1	286.2	284.7	286.2	286.6	286.2
57.5°	313.6	298.8	283.9	273.7	268.0	263.4	261.5	260.7	260.3	261.9	261.5
60°	284.7	270.6	258.8	248.2	242.5	239.8	235.6	236.4	236.4	236.4	232.6
62.5°	255.8	241.7	231.4	224.2	217.3	212.8	212.0	210.9	208.6	208.2	203.2
65°	226.1	215.4	206.7	199.4	192.6	188.8	187.6	184.2	181.6	176.6	173.2
67.5°	198.7	191.1	180.8	174.7	169.0	164.4	160.2	157.6	152.2	147.3	144.3
70°	171.3	163.3	156.4	150.0	144.3	140.1	135.1	130.2	126.7	123.7	121.4
72.5°	143.9	137.0	131.3	125.2	119.1	114.9	111.1	107.3	105.8	104.3	103.1
75°	118.4	111.9	106.6	101.6	98.2	93.3	91.3	89.8	88.3	86.4	84.1
77.5°	93.6	88.7	84.5	80.3	77.3	74.6	73.1	68.5	64.7	63.9	63.2
80°	69.7	65.8	63.2	60.1	56.7	52.9	51.8	50.2	49.5	49.5	49.9
82.5°	48.7	46.4	43.4	40.7	39.6	38.1	38.1	37.7	37.3	37.7	37.7
85°	29.7	26.6	25.9	25.5	25.9	25.9	25.9	25.9	25.5	25.9	25.1
87.5°	12.9	14.1	14.5	13.3	13.7	12.9	13.3	13.3	13.3	13.7	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: P243613

CATALOG NUMBER: S124RDR-H795D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	977.4	977.4	977.4	977.4
2.5°	925.7	925.7	921.8	918.8
5°	873.5	868.6	867.8	863.2
7.5°	824.8	824.0	822.1	822.1
10°	786.0	783.3	780.6	780.3
12.5°	731.2	735.0	730.4	729.3
15°	683.2	680.2	676.4	668.4
17.5°	638.7	633.0	631.4	628.0
20°	603.7	599.5	597.9	596.0
22.5°	570.5	569.8	565.2	564.1
25°	546.2	542.4	539.3	537.4
27.5°	519.5	516.9	515.4	512.3
30°	495.2	494.4	492.5	492.5
32.5°	473.1	470.8	470.8	470.4
35°	452.9	453.7	451.4	450.6
37.5°	433.9	432.8	433.1	432.4
40°	415.3	414.5	414.5	414.9
42.5°	396.2	396.6	397.4	397.4
45°	377.2	377.6	378.3	378.3
47.5°	359.3	358.5	359.3	358.5
50°	336.5	338.7	338.4	338.0
52.5°	313.2	312.5	314.0	313.6
55°	288.1	287.0	288.5	287.0
57.5°	260.0	260.3	260.3	259.6
60°	231.8	230.7	229.1	229.1
62.5°	199.1	195.6	193.4	194.9
65°	167.5	164.8	164.0	162.9
67.5°	142.3	139.3	138.2	137.8
70°	120.7	119.1	118.8	118.8
72.5°	102.4	102.4	101.2	100.5
75°	83.4	81.8	79.9	79.9
77.5°	62.4	62.0	61.7	61.7
80°	48.7	48.7	49.1	49.5
82.5°	36.5	36.9	37.3	37.3
85°	24.7	24.7	25.1	25.1
87.5°	13.3	13.3	13.3	12.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)