

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: P243618

Luminaire Tested: **S124RDR-H795D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243618
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-H795D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2664.0 lumens
Efficiency: N/A
Efficacy: 112.9 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

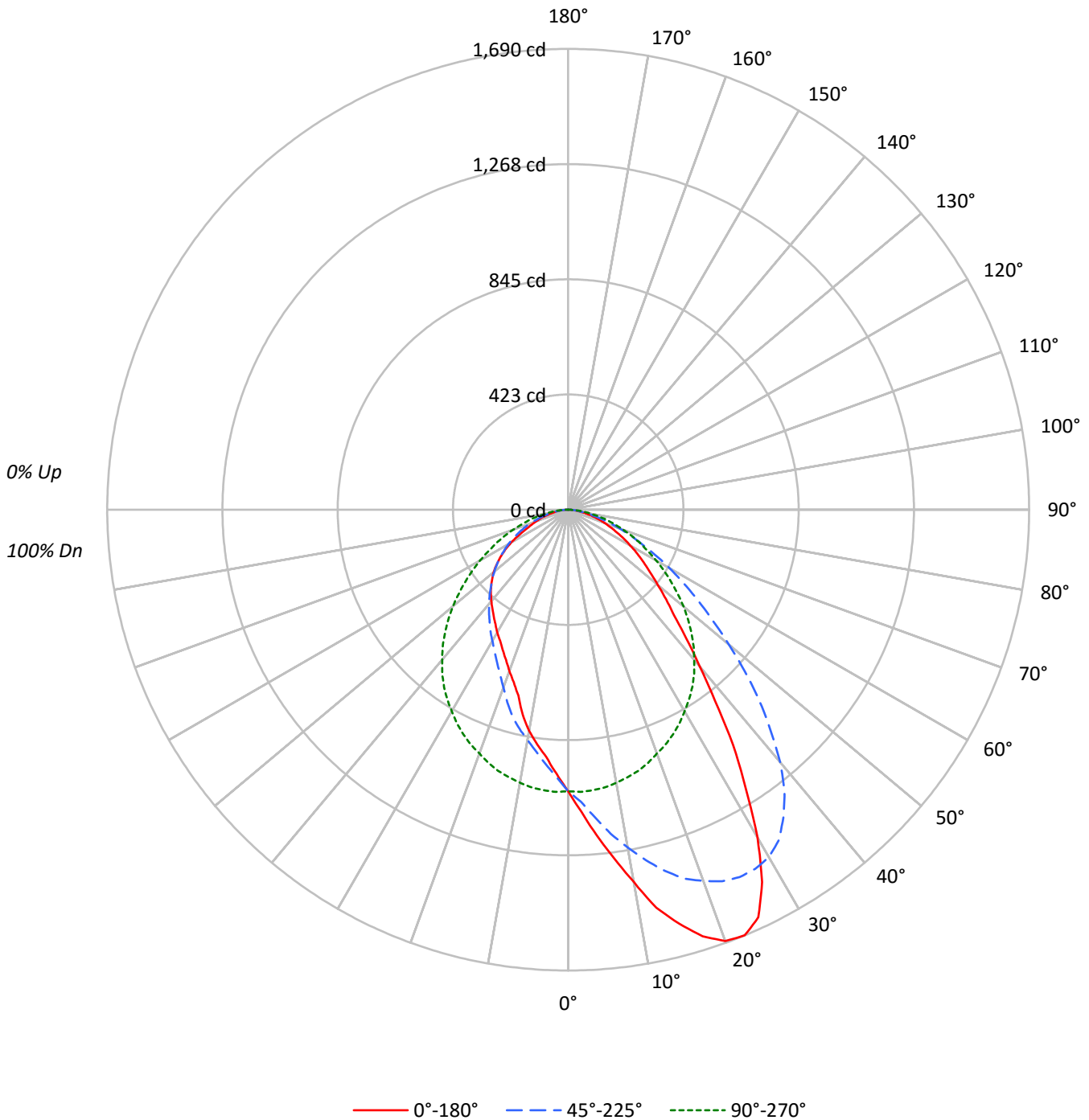
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9175	9175	9175
5°	10688	9214	8134
10°	12516	9175	7437
15°	14463	9129	6495
20°	15924	9000	5955
25°	16179	8917	5567
30°	14241	8758	5338
35°	11428	8609	5164
40°	8693	8335	5084
45°	6903	8029	5022
50°	5926	7632	4935
55°	5232	7138	4697
60°	4688	6624	4302
65°	4127	6121	3618
70°	3678	5557	3259
75°	3204	5052	2899
80°	2718	4341	2677
85°	2376	3733	2703



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	3.8
10°-20°	303.7	11.4
20°-30°	474.0	17.8
30°-40°	528.6	19.8
40°-50°	475.2	17.8
50°-60°	375.4	14.1
60°-70°	249.4	9.4
70°-80°	125.0	4.7
80°-90°	32.6	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°	877.9	33.0
0°-40°	1406.5	52.8
0°-60°	2257.1	84.7
0°-90°	2664.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2664.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1032	1032	1032	1032	1032	
5°	1198	1133	1033	937	912	120
15°	1572	1372	992	786	706	447
25°	1650	1487	909	618	568	738
35°	1053	1376	793	502	476	654
45°	549	991	639	402	400	435
55°	338	582	461	304	303	304
65°	196	298	291	199	172	196
75°	93	118	147	98	84	100
85°	23	25	37	27	26	26
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°	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2
2.5°	1108.6	1104.6	1104.2	1098.9	1098.5	1093.3	1091.7	1087.3	1078.4	1071.6	1072.0
5°	1197.8	1194.6	1194.2	1189.0	1187.4	1180.9	1170.9	1158.8	1144.8	1133.1	1125.5
7.5°	1289.5	1295.1	1289.1	1289.1	1277.4	1269.8	1250.1	1240.0	1215.9	1199.0	1181.3
10°	1386.7	1391.9	1389.5	1384.7	1369.4	1353.8	1333.3	1313.6	1284.2	1257.7	1240.0
12.5°	1495.3	1479.6	1489.6	1474.8	1462.3	1437.4	1417.7	1378.3	1355.0	1316.4	1281.8
15°	1571.6	1565.6	1565.2	1555.1	1541.5	1514.1	1492.8	1451.8	1412.0	1371.5	1332.5
17.5°	1640.0	1640.8	1635.1	1619.1	1601.4	1574.8	1545.9	1509.3	1463.9	1418.9	1372.7
20°	1683.4	1683.8	1679.7	1671.3	1652.0	1627.9	1598.1	1550.3	1498.9	1449.0	1402.8
22.5°	1689.8	1691.0	1689.8	1684.6	1671.3	1651.6	1624.3	1583.7	1531.8	1474.8	1419.7
25°	1649.6	1653.6	1654.0	1661.3	1654.4	1646.8	1626.7	1592.5	1544.7	1486.8	1426.9
27.5°	1539.5	1550.7	1561.2	1574.0	1585.7	1596.1	1597.7	1579.7	1538.7	1484.8	1427.7
30°	1387.5	1400.8	1421.7	1435.4	1471.5	1494.4	1525.4	1532.2	1512.5	1471.1	1416.1
32.5°	1210.7	1224.7	1232.8	1277.8	1329.6	1367.0	1418.5	1449.0	1456.7	1437.0	1391.9
35°	1053.1	1055.5	1061.5	1112.6	1164.0	1220.7	1284.6	1337.7	1373.9	1375.9	1353.8
37.5°	884.3	887.1	910.8	949.8	994.4	1056.7	1130.3	1205.8	1272.2	1302.7	1296.3
40°	749.2	748.4	773.8	807.5	850.9	915.6	991.6	1074.0	1144.8	1208.7	1223.9
42.5°	639.9	642.7	664.4	684.1	725.9	771.3	852.5	938.1	1029.0	1098.9	1145.6
45°	549.1	556.3	571.2	589.7	621.0	662.8	729.1	814.3	907.2	991.2	1047.1
47.5°	486.4	488.4	496.0	518.9	539.8	573.6	630.3	702.6	785.0	879.1	952.6
50°	428.5	433.3	436.1	449.8	470.3	502.4	546.2	600.1	681.7	768.1	860.2
52.5°	378.6	381.4	386.7	399.1	415.2	437.7	472.3	519.7	587.6	667.6	754.5
55°	337.6	338.0	343.3	352.1	364.6	381.9	414.8	449.0	509.3	582.0	660.8
57.5°	300.7	298.2	303.1	308.3	320.4	335.2	356.5	391.5	438.5	500.4	571.6
60°	263.7	265.7	265.3	271.3	277.7	292.6	310.7	333.6	372.2	428.9	489.2
62.5°	229.1	228.7	232.7	236.3	240.8	252.8	267.7	286.6	316.7	358.5	416.8
65°	196.2	197.0	200.2	203.0	207.8	215.4	226.7	242.0	266.1	298.2	347.3
67.5°	166.4	169.2	170.8	171.6	176.1	181.7	191.3	203.8	220.3	246.0	287.0
70°	141.5	142.3	143.1	145.9	147.9	151.1	158.4	165.2	180.1	199.0	228.7
72.5°	118.2	117.4	119.8	120.6	121.4	124.6	129.0	132.6	142.3	158.4	176.9
75°	93.3	93.7	94.1	95.3	98.5	98.9	100.9	104.9	111.7	118.2	130.6
77.5°	69.9	71.1	70.7	71.9	73.2	74.4	75.2	78.8	83.6	88.8	94.9
80°	53.1	53.1	53.1	53.9	53.1	55.9	55.9	57.1	58.3	60.7	65.1
82.5°	36.2	37.0	37.4	37.8	38.2	38.2	38.6	39.4	41.0	41.8	43.0
85°	23.3	22.5	22.9	22.9	22.9	22.9	23.7	24.5	24.5	24.9	26.1
87.5°	10.5	10.5	10.5	10.5	10.0	10.5	10.9	10.9	11.3	11.3	12.1
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°	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2
2.5°	1069.6	1068.4	1062.4	1055.9	1049.9	1043.9	1041.9	1035.8	1028.6	1022.2	1014.9
5°	1117.4	1107.8	1094.5	1080.8	1066.8	1053.9	1043.9	1032.6	1019.7	1004.5	992.4
7.5°	1165.7	1148.0	1126.3	1106.2	1082.0	1062.8	1043.5	1027.4	1008.9	987.2	970.7
10°	1212.7	1183.3	1156.8	1125.1	1094.5	1068.0	1043.5	1016.5	992.0	968.7	945.8
12.5°	1250.1	1220.7	1182.5	1143.5	1104.2	1069.6	1036.6	1004.9	974.3	946.2	920.9
15°	1292.7	1250.5	1203.4	1160.4	1106.6	1064.0	1026.2	992.0	957.0	922.9	895.1
17.5°	1324.0	1274.2	1215.9	1166.5	1114.6	1061.5	1016.1	973.1	932.9	897.2	868.6
20°	1348.1	1289.1	1230.8	1168.1	1106.2	1051.9	1000.9	951.4	910.8	871.8	841.7
22.5°	1358.6	1296.3	1231.6	1163.6	1097.7	1036.2	983.2	932.1	886.3	846.1	811.1
25°	1363.0	1294.7	1227.6	1150.4	1083.7	1021.0	961.9	909.2	862.2	816.8	782.2
27.5°	1359.4	1286.2	1209.1	1136.3	1060.7	999.2	936.5	883.1	834.0	790.2	751.6
30°	1349.7	1266.9	1190.2	1108.6	1035.8	971.1	910.0	853.3	803.9	759.3	721.1
32.5°	1324.8	1245.2	1158.0	1078.4	1000.0	936.1	880.7	824.8	774.6	727.9	691.0
35°	1293.9	1215.9	1124.7	1041.5	963.9	899.2	843.3	793.4	744.0	694.6	656.8
37.5°	1254.9	1175.7	1087.7	998.0	922.1	859.4	808.3	758.1	709.0	663.6	621.4
40°	1202.2	1129.9	1041.5	951.4	875.0	814.8	764.5	718.3	674.9	630.3	584.8
42.5°	1136.7	1081.6	990.4	901.6	826.8	766.9	722.3	680.9	639.1	593.3	552.3
45°	1066.8	1019.7	936.9	847.3	776.2	717.9	675.3	638.7	599.3	558.7	515.7
47.5°	988.0	953.0	881.5	792.6	717.9	668.0	628.6	595.3	559.5	523.3	481.5
50°	899.2	877.9	816.8	736.0	664.8	614.2	581.6	551.9	521.3	485.2	449.4
52.5°	810.3	806.3	749.2	678.1	611.0	563.9	532.2	504.8	479.9	445.8	415.6
55°	717.1	729.1	681.7	616.2	556.3	510.9	482.7	460.6	438.9	410.0	381.0
57.5°	634.3	647.9	615.4	555.1	499.2	460.6	436.5	416.4	397.5	371.0	351.7
60°	542.6	567.6	550.3	495.2	445.8	411.2	388.7	372.6	356.9	334.0	317.1
62.5°	470.3	487.6	477.5	436.5	392.7	364.6	344.5	329.6	317.1	299.5	283.0
65°	392.7	414.4	409.2	382.3	343.7	317.9	302.7	291.0	278.1	264.1	250.4
67.5°	322.8	345.3	344.1	325.6	297.0	275.7	261.3	252.8	242.4	228.7	220.3
70°	259.7	280.6	281.4	272.1	252.0	231.9	221.5	213.8	205.8	195.7	189.7
72.5°	201.8	220.7	223.9	219.5	206.6	193.3	184.1	178.9	172.0	163.6	158.4
75°	150.7	164.4	172.0	170.0	164.8	156.0	150.7	147.1	140.3	134.3	129.8
77.5°	107.3	118.2	125.8	129.0	126.6	123.0	118.2	115.4	108.1	105.3	102.9
80°	71.9	81.6	88.4	90.4	91.6	90.8	86.4	84.8	81.2	80.0	77.6
82.5°	44.2	49.4	54.3	59.5	61.9	61.9	59.5	59.9	56.7	55.1	54.3
85°	26.9	28.1	28.9	33.0	36.2	37.4	36.2	36.6	35.4	34.2	33.0
87.5°	12.5	12.5	12.9	13.7	14.5	16.9	17.7	18.9	17.3	17.3	14.5
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°	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2	1032.2
2.5°	1010.5	1005.3	1001.3	994.8	989.6	981.2	978.3	978.3	980.0	977.9	980.0
5°	984.0	974.3	963.9	954.6	944.6	937.3	930.1	928.5	927.7	922.9	923.3
7.5°	957.4	944.6	931.3	919.3	906.8	895.5	887.9	884.7	881.9	878.7	875.0
10°	928.9	914.0	898.4	884.7	872.6	857.4	849.7	847.3	839.3	837.7	832.0
12.5°	898.8	883.5	867.8	850.1	838.5	823.6	812.3	807.1	799.5	793.8	785.4
15°	875.0	855.7	834.8	817.6	802.3	785.8	770.5	760.5	750.4	734.8	727.1
17.5°	845.7	823.6	805.5	787.0	764.9	740.8	722.7	707.8	697.0	684.1	676.5
20°	813.9	793.4	770.9	744.8	721.5	694.2	677.7	665.2	656.8	649.1	645.1
22.5°	785.8	762.1	731.1	706.2	673.7	652.0	638.7	630.7	622.6	614.6	610.6
25°	755.3	727.5	689.7	659.2	634.7	617.8	604.9	597.3	588.9	584.0	578.0
27.5°	725.1	689.3	651.6	623.8	604.5	584.8	574.0	568.0	561.5	554.7	549.9
30°	688.5	647.9	616.6	591.3	572.0	555.5	547.5	538.6	533.0	529.0	526.2
32.5°	650.4	611.4	582.8	561.1	542.2	529.8	519.7	514.1	509.3	504.8	501.6
35°	614.6	576.8	552.7	531.8	516.1	502.0	494.4	489.2	485.2	481.5	479.9
37.5°	579.2	547.1	520.9	504.4	488.0	476.7	469.5	464.7	462.2	458.6	459.0
40°	544.2	515.3	494.4	475.5	460.2	450.6	445.0	442.9	439.3	438.1	439.3
42.5°	512.9	486.4	466.3	448.6	435.3	426.1	421.6	418.8	417.6	417.2	417.6
45°	482.3	457.4	438.1	423.7	410.0	401.5	397.9	395.9	394.7	396.7	397.1
47.5°	451.8	429.3	412.0	395.1	383.9	377.8	374.2	372.6	373.8	374.6	377.4
50°	421.6	400.7	382.7	367.8	358.9	353.3	352.1	349.3	351.3	352.5	354.5
52.5°	391.1	372.2	356.1	342.1	332.8	329.2	326.4	325.2	328.0	328.0	330.0
55°	360.1	343.7	328.8	315.9	308.7	304.3	302.3	300.7	302.3	302.7	302.3
57.5°	331.2	315.5	299.9	289.0	283.0	278.1	276.1	275.3	274.9	276.5	276.1
60°	300.7	285.8	273.3	262.1	256.0	253.2	248.8	249.6	249.6	249.6	245.6
62.5°	270.1	255.2	244.4	236.7	229.5	224.7	223.9	222.7	220.3	219.9	214.6
65°	238.8	227.5	218.3	210.6	203.4	199.4	198.2	194.5	191.7	186.5	182.9
67.5°	209.8	201.8	190.9	184.5	178.5	173.6	169.2	166.4	160.8	155.6	152.3
70°	180.9	172.4	165.2	158.4	152.3	147.9	142.7	137.5	133.8	130.6	128.2
72.5°	151.9	144.7	138.7	132.2	125.8	121.4	117.4	113.3	111.7	110.1	108.9
75°	125.0	118.2	112.5	107.3	103.7	98.5	96.5	94.9	93.3	91.2	88.8
77.5°	98.9	93.7	89.2	84.8	81.6	78.8	77.2	72.4	68.3	67.5	66.7
80°	73.6	69.5	66.7	63.5	59.9	55.9	54.7	53.1	52.3	52.3	52.7
82.5°	51.4	49.0	45.8	43.0	41.8	40.2	40.2	39.8	39.4	39.8	39.8
85°	31.4	28.1	27.3	26.9	27.3	27.3	27.3	27.3	26.9	27.3	26.5
87.5°	13.7	14.9	15.3	14.1	14.5	13.7	14.1	14.1	14.1	14.5	14.1
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: P243618

CATALOG NUMBER: S124RDR-H795D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1032.2	1032.2	1032.2	1032.2
2.5°	977.5	977.5	973.5	970.3
5°	922.5	917.2	916.4	911.6
7.5°	871.0	870.2	868.2	868.2
10°	830.0	827.2	824.4	824.0
12.5°	772.1	776.2	771.3	770.1
15°	721.5	718.3	714.3	705.8
17.5°	674.5	668.4	666.8	663.2
20°	637.5	633.1	631.5	629.5
22.5°	602.5	601.7	596.9	595.7
25°	576.8	572.8	569.6	567.6
27.5°	548.7	545.8	544.2	541.0
30°	522.9	522.1	520.1	520.1
32.5°	499.6	497.2	497.2	496.8
35°	478.3	479.1	476.7	475.9
37.5°	458.2	457.0	457.4	456.6
40°	438.5	437.7	437.7	438.1
42.5°	418.4	418.8	419.6	419.6
45°	398.3	398.7	399.5	399.5
47.5°	379.4	378.6	379.4	378.6
50°	355.3	357.7	357.3	356.9
52.5°	330.8	330.0	331.6	331.2
55°	304.3	303.1	304.7	303.1
57.5°	274.5	274.9	274.9	274.1
60°	244.8	243.6	242.0	242.0
62.5°	210.2	206.6	204.2	205.8
65°	176.9	174.0	173.2	172.0
67.5°	150.3	147.1	145.9	145.5
70°	127.4	125.8	125.4	125.4
72.5°	108.1	108.1	106.9	106.1
75°	88.0	86.4	84.4	84.4
77.5°	65.9	65.5	65.1	65.1
80°	51.4	51.4	51.9	52.3
82.5°	38.6	39.0	39.4	39.4
85°	26.1	26.1	26.5	26.5
87.5°	14.1	14.1	14.1	13.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)