

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: P242747

Luminaire Tested: **S124RDR-S575D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242747
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S575D840-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2274.7 lumens
Efficiency: N/A
Efficacy: 121.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

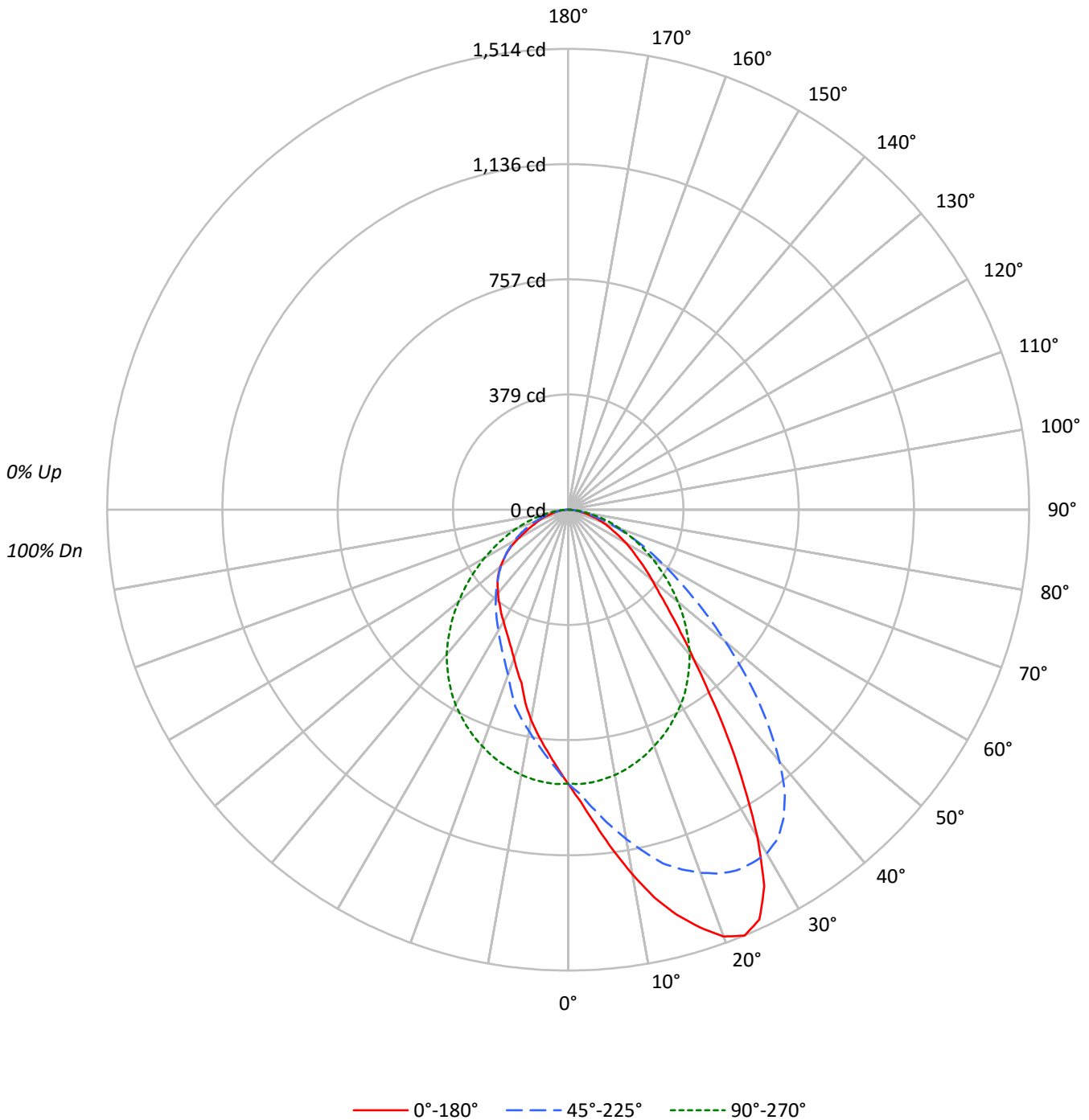
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100		
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86	86	86	86	86		
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74	74	74	74	74	74	74		
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63	63	63	63	63	63	63		
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55	55	55	55	55	55	55		
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48	48	48	48	48	48	48		
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43	43	43	43	43	43	43		
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38	38	38	38	38	38	38		
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34	34	34	34	34	34	34		
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31	31	31	31	31	31	31		
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28	28	28	28		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7999	7999	7999
5°	9278	8023	7091
10°	10976	7988	6329
15°	12678	7914	5439
20°	14116	7813	4918
25°	14572	7713	4566
30°	12756	7591	4354
35°	9930	7413	4226
40°	7446	7207	4156
45°	5879	6877	4121
50°	4963	6498	4001
55°	4327	6080	3788
60°	3893	5646	3351
65°	3433	5178	2882
70°	3090	4694	2602
75°	2590	4159	2215
80°	2191	3542	2078
85°	1846	2774	1846



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.1	3.8
10°-20°	263.1	11.6
20°-30°	412.2	18.1
30°-40°	457.7	20.1
40°-50°	405.6	17.8
50°-60°	316.1	13.9
60°-70°	206.8	9.1
70°-80°	101.4	4.5
80°-90°	24.7	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°	762.4	33.5
0°-40°	1220.1	53.6
0°-60°	1941.8	85.4
0°-90°	2274.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	900	900	900	900	900	
5°	1040	990	899	814	795	105
15°	1378	1203	860	670	591	392
25°	1486	1308	786	512	466	663
35°	915	1234	683	412	389	573
45°	468	879	547	327	328	369
55°	279	497	392	247	244	254
65°	163	256	246	160	137	164
75°	75	97	121	78	64	83
85°	18	20	27	19	18	21
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°	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9
2.5°	961.5	964.8	961.5	961.1	957.5	956.4	955.0	950.3	941.6	936.5	937.6
5°	1039.8	1048.9	1043.8	1043.1	1035.1	1027.1	1022.0	1010.4	998.1	989.8	982.9
7.5°	1126.8	1132.3	1128.6	1124.6	1110.9	1106.5	1094.6	1080.8	1060.1	1044.5	1030.4
10°	1216.0	1220.4	1218.9	1209.5	1200.1	1180.8	1170.0	1148.6	1120.7	1098.5	1077.9
12.5°	1303.8	1308.5	1292.9	1295.8	1275.8	1261.7	1242.8	1214.6	1181.2	1151.1	1123.9
15°	1377.7	1371.9	1371.9	1364.7	1344.7	1323.7	1305.9	1277.6	1237.0	1203.0	1167.1
17.5°	1438.6	1441.2	1438.3	1419.8	1405.3	1383.9	1352.0	1319.7	1284.5	1238.9	1203.3
20°	1492.3	1492.3	1489.0	1477.4	1457.1	1433.9	1398.7	1362.8	1315.0	1268.9	1227.6
22.5°	1514.0	1515.5	1511.5	1502.4	1484.7	1462.2	1433.5	1396.9	1347.3	1294.0	1240.3
25°	1485.8	1492.6	1493.4	1490.8	1485.4	1471.6	1445.9	1408.5	1364.3	1308.1	1253.0
27.5°	1394.4	1403.5	1407.1	1415.1	1429.9	1435.4	1432.1	1407.1	1364.3	1308.8	1254.1
30°	1242.8	1250.1	1273.7	1304.5	1328.4	1350.2	1369.0	1374.1	1352.3	1303.8	1245.4
32.5°	1074.6	1085.1	1108.7	1142.4	1186.3	1226.9	1275.1	1300.9	1305.6	1281.3	1228.3
35°	915.1	922.3	944.1	978.9	1026.8	1081.5	1148.6	1200.8	1236.3	1233.8	1200.8
37.5°	762.1	772.2	794.4	823.0	870.1	940.1	1003.6	1073.5	1137.3	1168.5	1151.8
40°	641.7	642.1	663.5	693.2	736.7	795.8	866.5	946.3	1019.5	1079.3	1090.9
42.5°	546.7	546.7	559.1	591.7	620.0	674.7	741.4	820.5	909.3	980.7	1016.2
45°	467.7	471.0	482.6	501.8	526.4	573.6	627.6	701.2	797.3	879.2	930.3
47.5°	405.3	411.1	418.0	435.4	455.7	488.7	534.8	603.7	683.4	774.4	845.1
50°	358.9	359.7	369.1	377.8	394.8	419.8	459.0	514.1	585.9	672.5	753.4
52.5°	319.0	318.7	323.4	335.0	348.1	366.2	395.9	444.9	506.5	581.9	666.0
55°	279.2	281.0	285.3	294.0	304.5	318.3	343.3	381.0	431.1	497.4	573.2
57.5°	248.7	249.8	253.8	257.1	267.2	277.4	297.7	324.9	368.7	424.2	498.5
60°	219.0	219.3	220.4	225.9	233.5	242.9	255.6	277.7	313.2	362.9	418.8
62.5°	190.0	190.7	192.5	196.1	201.6	207.4	220.8	237.5	265.4	306.0	354.9
65°	163.2	163.5	166.1	167.5	172.2	178.0	187.8	199.8	220.1	255.6	293.7
67.5°	140.7	140.7	140.7	142.8	146.5	150.5	157.0	167.1	183.5	206.3	241.8
70°	118.9	118.9	119.6	120.7	122.5	125.8	129.1	136.3	147.6	165.3	191.1
72.5°	98.6	99.0	99.7	99.7	100.4	103.0	105.1	109.1	116.7	129.1	148.6
75°	75.4	76.5	78.3	79.8	81.6	81.2	83.8	86.7	89.2	97.2	109.1
77.5°	59.5	58.7	58.7	60.2	60.5	60.9	62.7	65.3	67.4	71.8	76.1
80°	42.8	42.8	43.9	44.2	43.9	44.2	46.0	47.1	47.9	49.3	53.3
82.5°	29.7	30.5	29.7	30.1	30.5	30.8	32.3	32.3	33.0	33.4	34.4
85°	18.1	18.5	18.9	18.1	18.1	18.1	18.9	19.2	19.9	19.6	20.3
87.5°	8.0	7.6	8.0	8.0	8.3	8.0	8.3	9.1	8.3	8.7	8.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9
2.5°	933.9	928.9	926.3	920.5	913.6	910.0	906.8	902.0	895.9	889.3	884.6
5°	974.2	965.5	954.6	941.6	930.0	918.7	908.9	899.1	887.9	876.3	864.7
7.5°	1014.1	998.5	981.8	961.9	942.6	924.9	908.9	893.3	875.6	859.6	844.8
10°	1056.1	1032.9	1007.2	980.0	952.8	929.2	906.0	885.0	861.8	841.1	823.7
12.5°	1090.2	1061.9	1029.7	994.1	960.0	930.3	902.8	873.8	846.6	823.7	799.1
15°	1128.6	1091.3	1049.6	1009.0	966.6	927.8	891.9	860.0	829.9	798.3	776.2
17.5°	1155.1	1112.0	1062.7	1015.5	966.9	922.0	881.4	844.4	809.9	778.4	752.3
20°	1178.3	1129.4	1073.2	1017.7	961.5	912.6	868.0	825.9	790.0	755.2	728.0
22.5°	1191.4	1135.9	1073.2	1014.4	955.7	901.7	851.6	807.4	767.5	732.7	701.9
25°	1192.1	1134.1	1071.4	1004.6	940.8	884.6	833.9	786.4	742.9	708.1	676.2
27.5°	1189.2	1122.1	1059.0	991.2	925.6	865.8	813.2	762.8	719.7	682.7	650.1
30°	1180.5	1107.2	1038.4	967.3	900.6	843.7	787.5	739.6	694.3	655.5	622.5
32.5°	1161.6	1089.1	1013.7	940.5	872.7	813.6	761.0	712.8	668.6	628.7	593.1
35°	1135.5	1061.9	981.4	906.8	840.4	779.5	729.5	683.1	640.6	598.2	561.2
37.5°	1105.4	1028.6	949.2	867.2	801.2	743.2	696.5	651.9	610.5	571.8	530.8
40°	1059.0	990.5	907.8	826.6	758.5	703.0	660.6	621.1	579.4	540.9	500.0
42.5°	1002.8	947.0	863.2	781.7	714.6	661.7	622.9	584.4	547.5	510.5	467.3
45°	939.0	894.8	816.5	738.2	670.4	617.4	581.2	547.1	513.7	478.2	438.0
47.5°	868.0	835.3	767.2	685.2	621.8	573.2	538.4	510.1	480.7	444.9	408.6
50°	793.3	774.1	708.8	635.6	575.7	531.9	496.0	469.9	446.3	412.2	380.7
52.5°	713.5	705.5	653.0	583.7	526.4	483.6	454.3	431.4	407.5	380.7	351.7
55°	632.3	637.7	591.0	530.4	476.0	439.8	411.9	392.3	372.0	348.1	325.2
57.5°	547.8	568.5	533.7	478.9	426.4	392.3	370.9	353.5	336.5	316.1	295.5
60°	473.5	490.2	472.4	425.6	381.0	349.9	330.3	317.6	300.6	282.4	267.6
62.5°	401.0	419.1	410.4	374.9	334.3	308.5	291.9	280.3	268.7	253.4	237.8
65°	342.6	354.2	349.1	323.0	293.7	270.8	254.9	246.2	234.6	223.0	209.2
67.5°	274.1	296.9	293.3	278.8	250.5	232.4	221.2	213.2	202.3	193.6	183.8
70°	215.7	236.4	236.0	224.8	211.0	194.3	187.1	180.6	171.1	162.8	155.2
72.5°	166.8	185.3	188.9	180.9	172.6	161.0	154.1	150.1	141.0	136.0	130.2
75°	123.6	137.4	141.0	141.0	136.7	130.2	124.0	121.1	114.6	109.5	105.9
77.5°	87.0	96.4	101.9	103.0	103.3	100.8	95.0	92.8	87.7	85.9	81.9
80°	57.3	63.1	69.6	71.8	73.6	72.9	70.7	69.2	64.5	62.7	61.3
82.5°	35.2	37.7	42.8	48.2	47.1	49.7	47.9	46.8	43.5	43.1	41.7
85°	20.7	21.0	21.8	25.0	26.8	27.6	27.9	27.2	26.1	26.1	23.6
87.5°	8.7	8.3	9.1	9.1	9.4	10.9	12.0	12.3	11.2	10.2	9.1
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9	899.9
2.5°	879.6	875.9	871.2	865.8	859.3	853.5	850.9	853.1	854.2	851.3	850.9
5°	856.7	847.7	840.4	829.5	820.8	813.6	808.5	806.3	807.0	801.2	799.8
7.5°	831.3	821.6	809.6	797.3	785.7	775.5	770.1	767.5	761.4	758.8	754.8
10°	807.0	792.5	780.9	765.7	751.9	739.3	733.1	728.0	721.8	718.9	712.8
12.5°	782.0	764.6	751.6	735.6	721.5	705.5	699.7	689.2	678.7	671.8	663.5
15°	758.8	738.5	722.9	704.1	687.4	670.0	654.4	637.0	630.5	616.7	608.7
17.5°	731.3	710.2	692.8	668.6	643.5	622.5	605.1	587.0	577.2	567.8	563.8
20°	704.1	685.2	658.4	629.0	600.4	576.5	563.0	552.2	541.3	535.1	530.8
22.5°	678.3	653.0	620.7	588.4	559.8	542.4	531.5	520.3	511.9	506.1	500.0
25°	649.0	617.4	584.4	548.2	528.6	512.3	500.0	490.9	485.5	477.8	474.9
27.5°	620.3	582.3	544.9	520.3	500.0	484.4	473.1	466.6	459.4	454.3	450.3
30°	586.3	547.5	514.8	491.6	471.0	458.6	449.9	442.0	436.5	432.5	429.6
32.5°	552.5	513.7	487.6	462.3	447.0	435.1	425.6	420.2	416.2	410.8	409.3
35°	520.3	485.8	461.9	439.4	422.7	411.9	404.6	398.4	394.8	393.4	392.3
37.5°	488.7	460.1	433.6	415.5	399.9	391.6	382.1	379.2	376.7	373.4	374.9
40°	459.0	432.5	409.7	390.1	378.1	368.7	363.6	360.0	357.8	357.8	357.8
42.5°	433.3	407.5	385.4	368.4	356.4	348.8	343.0	340.1	339.7	339.4	341.5
45°	406.4	382.5	360.0	345.5	335.4	327.4	324.1	321.6	321.6	323.0	323.4
47.5°	379.6	357.1	339.0	322.3	312.9	307.8	304.9	303.5	303.5	305.3	306.7
50°	355.3	333.2	315.4	300.9	292.2	287.5	285.0	284.2	285.0	285.0	287.5
52.5°	328.8	309.6	292.2	280.6	270.5	266.1	265.0	263.9	264.3	265.8	266.5
55°	303.1	285.3	268.7	257.1	249.8	246.9	243.6	244.0	243.3	244.0	244.0
57.5°	277.0	261.4	245.1	235.7	229.5	225.1	221.5	222.6	221.5	221.5	221.2
60°	252.0	234.6	222.2	213.9	206.7	203.0	199.8	200.5	199.4	198.7	197.2
62.5°	224.8	211.0	199.4	191.4	186.0	181.6	178.4	177.3	174.4	171.5	167.9
65°	198.7	186.7	176.2	168.6	163.2	159.9	157.3	155.2	149.7	143.9	141.0
67.5°	172.9	164.2	154.1	147.6	143.2	138.9	134.1	130.2	124.7	121.1	119.3
70°	148.3	139.9	131.6	125.4	120.7	116.7	111.3	108.8	105.1	103.7	101.9
72.5°	124.7	117.1	109.5	104.1	99.0	96.1	92.1	89.6	88.5	88.1	86.3
75°	100.8	94.6	88.8	83.8	79.8	77.6	75.8	74.0	73.2	70.0	68.2
77.5°	77.6	73.2	69.6	65.6	63.1	61.6	57.6	55.1	53.7	51.8	51.5
80°	57.3	54.4	50.8	48.6	44.6	43.1	41.7	41.3	41.0	40.6	40.2
82.5°	39.5	36.6	33.0	31.9	31.5	30.8	30.1	29.7	29.4	29.7	29.7
85°	21.8	20.3	20.3	19.9	19.6	19.2	18.9	18.9	18.5	18.9	18.5
87.5°	9.1	8.7	8.7	8.0	8.3	8.3	8.0	8.0	8.3	7.6	7.6
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: P242747

CATALOG NUMBER: S124RDR-S575D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	899.9	899.9	899.9	899.9
2.5°	848.7	849.5	846.9	846.2
5°	796.9	796.2	794.4	794.7
7.5°	751.9	749.4	751.2	748.3
10°	711.3	707.3	704.1	701.2
12.5°	655.9	652.6	647.9	649.7
15°	604.0	598.6	589.9	591.0
17.5°	557.6	558.3	553.3	554.7
20°	523.2	520.6	521.0	519.9
22.5°	499.2	496.0	492.7	490.2
25°	471.7	469.5	466.2	465.5
27.5°	447.4	447.0	445.6	443.8
30°	426.7	426.0	425.3	424.2
32.5°	408.2	407.9	407.2	407.5
35°	390.8	390.5	389.7	389.4
37.5°	374.5	375.6	374.9	374.9
40°	357.5	357.8	358.6	358.2
42.5°	343.3	343.3	344.4	343.0
45°	325.9	328.1	327.8	327.8
47.5°	307.4	310.0	310.3	310.3
50°	289.3	288.6	289.7	289.3
52.5°	267.2	267.6	267.2	266.8
55°	244.4	244.7	244.0	244.4
57.5°	220.1	218.6	219.7	219.0
60°	193.6	190.7	190.0	188.5
62.5°	163.9	162.1	159.2	161.0
65°	138.1	136.7	135.6	137.0
67.5°	117.5	116.7	116.7	116.0
70°	101.9	100.8	100.8	100.1
72.5°	85.9	84.8	85.2	84.8
75°	66.0	64.2	64.2	64.5
77.5°	51.5	51.1	51.8	50.8
80°	40.2	39.9	39.5	40.6
82.5°	29.0	29.0	29.0	30.5
85°	18.9	18.1	18.9	18.1
87.5°	8.3	8.0	7.6	8.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)