

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: P242419

Luminaire Tested: **S122RDR-S675D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S675D940-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2217.5 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

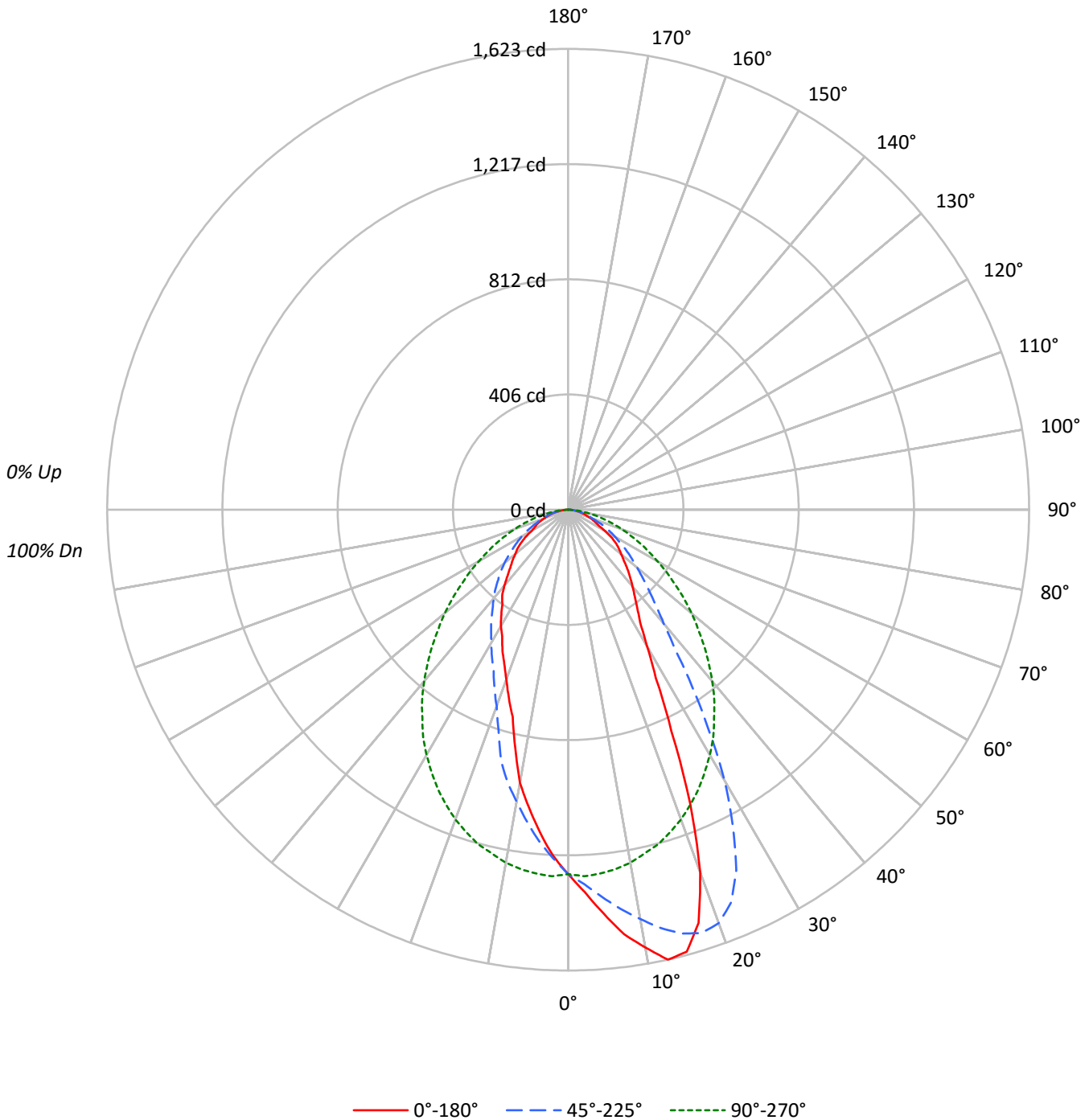
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	106	103	100	108	104	101	98	100	97	95		96	94	92		93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81		87	83	80		84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71		78	73	69		76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62		71	66	61		69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55		65	59	55		63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49		60	54	49		58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45		55	49	44		54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41		51	45	40		50	44	40	39
9	62	50	43	38	61	50	42	37	49	42	37		47	41	37		47	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34		44	38	34		44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24442	24442	24442
5°	27298	24597	21809
10°	30287	24423	18904
15°	31776	24066	14894
20°	27547	23536	12888
25°	18068	22810	11507
30°	12161	21928	10414
35°	9850	20818	9394
40°	8757	19614	8693
45°	7928	18196	7758
50°	7216	16793	7189
55°	6781	15236	6692
60°	5672	13810	5604
65°	4782	12539	5427
70°	4422	11200	5118
75°	4136	9744	4725
80°	3817	8018	4201
85°	3519	6338	3693



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.7	5.5
10°-20°	339.7	15.3
20°-30°	437.2	19.7
30°-40°	414.8	18.7
40°-50°	355.4	16.0
50°-60°	270.7	12.2
60°-70°	170.8	7.7
70°-80°	85.2	3.8
80°-90°	21.9	1.0
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°	898.7	40.5
0°-40°	1313.5	59.2
0°-60°	1939.6	87.5
0°-90°	2217.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2217.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1283	1283	1283	1283	1283	
5°	1428	1369	1286	1172	1141	141
15°	1611	1545	1220	914	755	438
25°	860	1400	1085	622	548	406
35°	424	761	895	472	404	270
45°	294	401	676	348	288	228
55°	204	250	459	236	202	180
65°	106	143	278	142	120	107
75°	56	63	132	72	64	60
85°	16	16	29	17	17	18
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°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2
2.5°	1348.3	1349.7	1351.0	1347.9	1347.9	1345.2	1339.4	1335.0	1322.5	1320.7	1320.7
5°	1427.7	1426.8	1428.6	1422.8	1414.8	1413.0	1404.5	1393.4	1381.8	1368.8	1366.2
7.5°	1508.0	1502.6	1500.4	1503.1	1494.6	1483.0	1468.7	1455.4	1435.3	1418.8	1408.5
10°	1565.9	1580.6	1571.7	1556.1	1559.2	1538.3	1527.1	1508.0	1491.9	1463.8	1457.6
12.5°	1623.0	1626.6	1625.2	1618.1	1612.3	1599.4	1583.3	1567.3	1534.3	1509.7	1483.9
15°	1611.4	1619.9	1622.1	1619.4	1621.7	1620.8	1612.7	1598.9	1573.1	1545.4	1521.3
17.5°	1525.8	1535.6	1543.6	1550.8	1561.9	1583.8	1590.5	1593.1	1582.4	1562.8	1542.7
20°	1359.0	1349.2	1390.3	1411.2	1429.0	1473.6	1512.0	1526.7	1550.3	1549.9	1545.4
22.5°	1122.7	1128.1	1166.4	1192.3	1252.9	1297.5	1342.5	1408.1	1459.4	1497.3	1520.4
25°	859.7	876.6	915.4	949.3	1007.2	1090.2	1165.5	1252.9	1335.4	1400.5	1462.5
27.5°	668.8	671.0	706.3	740.6	776.3	848.1	948.8	1053.6	1171.3	1256.0	1363.1
30°	552.9	550.2	563.1	582.3	611.7	664.4	735.7	838.3	955.5	1101.8	1232.0
32.5°	470.8	471.7	480.7	493.6	516.8	548.0	591.2	669.7	779.0	922.1	1080.4
35°	423.6	423.1	430.3	440.5	450.8	473.5	507.0	550.7	626.9	761.1	917.2
37.5°	384.3	386.6	389.7	396.4	408.9	422.2	443.2	474.0	531.9	615.3	755.3
40°	352.2	353.1	358.0	363.4	370.1	379.9	396.4	420.0	459.7	523.0	618.9
42.5°	322.8	323.7	326.8	331.7	336.6	346.4	359.4	379.0	409.3	455.2	530.2
45°	294.3	294.3	297.4	299.6	305.4	314.3	325.5	342.4	364.7	401.3	453.9
47.5°	266.6	266.6	268.9	272.9	276.9	284.0	295.6	309.9	325.9	355.8	402.6
50°	243.5	243.9	245.2	248.4	250.6	256.8	265.3	277.3	294.3	316.1	353.6
52.5°	224.7	224.3	226.1	227.0	228.3	232.3	238.1	248.4	263.1	281.3	310.8
55°	204.2	202.4	205.1	207.3	208.7	210.5	214.0	220.7	233.6	249.7	272.9
57.5°	180.1	179.2	180.6	182.8	186.8	191.3	193.5	198.0	204.7	217.1	241.7
60°	148.9	148.9	152.9	154.3	159.2	165.4	171.7	175.2	181.9	189.5	206.4
62.5°	121.3	121.7	123.1	124.4	126.6	134.7	144.0	152.9	159.2	166.3	176.1
65°	106.1	107.0	107.0	107.9	109.7	111.5	115.0	121.3	132.4	142.7	151.2
67.5°	92.7	92.7	93.2	94.1	94.5	96.8	98.1	101.2	103.4	115.0	126.6
70°	79.4	80.7	80.3	81.2	81.6	82.5	84.3	85.6	89.6	91.9	98.1
72.5°	66.9	67.8	67.8	68.2	69.6	69.6	70.9	72.2	74.5	76.2	78.9
75°	56.2	55.7	56.2	57.1	57.5	58.0	58.0	59.7	61.1	62.9	65.1
77.5°	45.5	45.9	45.9	45.9	45.9	46.8	46.8	47.7	49.0	49.9	51.3
80°	34.8	35.2	34.8	35.2	35.7	36.1	35.7	36.1	37.5	38.3	38.3
82.5°	25.0	25.0	25.4	25.4	25.4	25.4	26.3	26.3	27.2	26.8	27.2
85°	16.1	15.6	15.6	15.6	16.1	16.5	16.1	16.1	16.5	16.5	16.5
87.5°	7.1	7.6	7.6	7.6	7.6	7.6	7.6	8.0	7.6	8.0	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2
2.5°	1321.6	1318.0	1314.9	1306.9	1302.9	1293.9	1292.6	1292.2	1280.6	1269.4	1266.3
5°	1359.0	1351.9	1341.2	1328.7	1315.8	1302.4	1293.5	1286.4	1268.5	1251.6	1241.8
7.5°	1396.0	1383.1	1366.2	1344.8	1326.5	1305.1	1290.4	1277.0	1252.5	1230.2	1215.5
10°	1438.4	1413.4	1388.9	1356.4	1331.0	1306.0	1282.8	1262.7	1234.2	1202.1	1179.4
12.5°	1464.7	1436.6	1400.5	1368.8	1334.1	1300.6	1267.6	1240.4	1205.7	1172.2	1144.1
15°	1487.9	1458.5	1417.5	1372.0	1329.6	1288.1	1252.5	1220.4	1176.7	1137.0	1104.0
17.5°	1509.3	1468.7	1426.4	1373.8	1326.9	1276.6	1231.5	1191.4	1143.7	1096.9	1059.4
20°	1518.7	1478.5	1427.7	1375.1	1317.1	1255.2	1205.7	1161.1	1108.9	1056.7	1012.1
22.5°	1512.9	1483.9	1425.9	1360.4	1300.6	1235.1	1177.6	1124.1	1064.8	1011.3	957.7
25°	1482.5	1471.8	1418.3	1349.7	1281.9	1206.5	1141.9	1085.3	1019.3	962.2	906.0
27.5°	1426.8	1442.4	1404.5	1330.1	1256.9	1175.8	1105.3	1041.6	974.2	910.5	854.3
30°	1338.5	1391.6	1377.3	1309.5	1225.3	1145.9	1064.3	997.0	923.9	857.9	802.6
32.5°	1217.7	1314.0	1335.0	1281.0	1193.2	1104.0	1017.5	950.6	873.5	803.0	749.5
35°	1087.9	1219.0	1279.2	1243.1	1155.7	1061.6	973.4	895.3	818.6	750.0	696.5
37.5°	934.1	1108.9	1201.6	1197.6	1114.3	1018.4	922.5	845.4	766.5	698.7	643.0
40°	785.2	978.7	1109.3	1138.3	1070.6	964.9	867.7	788.8	712.1	646.1	579.6
42.5°	651.4	844.0	1012.1	1067.9	1017.5	912.7	815.1	731.7	657.7	596.1	527.9
45°	548.4	717.0	894.0	984.1	954.2	857.0	754.0	675.5	605.5	551.6	486.5
47.5°	474.9	597.5	775.4	893.1	889.5	797.2	694.7	619.3	553.3	503.4	448.1
50°	413.8	517.2	662.1	800.4	811.9	737.5	641.2	566.7	506.1	453.0	410.7
52.5°	358.9	439.6	566.3	697.4	735.7	673.7	581.0	513.7	455.2	407.5	372.8
55°	312.6	378.6	477.5	601.5	651.4	606.0	523.0	458.8	411.1	370.1	338.9
57.5°	272.0	323.7	406.2	510.1	566.7	535.9	465.1	412.0	369.6	331.3	306.3
60°	234.1	274.7	342.0	425.4	489.6	469.5	411.1	362.5	327.7	295.6	272.4
62.5°	198.4	231.9	287.1	350.9	408.4	403.1	358.0	319.2	289.8	261.3	242.6
65°	165.4	190.8	235.9	288.9	336.2	340.2	305.9	278.2	251.0	227.8	210.5
67.5°	136.9	154.3	188.2	235.0	271.1	283.6	260.4	238.1	215.8	197.1	181.5
70°	111.0	124.4	147.6	183.7	216.3	229.6	217.6	201.1	182.4	167.7	154.7
72.5°	84.7	97.6	113.3	137.3	164.1	178.8	176.6	165.9	151.6	140.0	128.0
75°	67.8	71.8	83.4	101.2	123.1	135.5	138.7	132.4	120.4	111.0	103.9
77.5°	52.6	55.3	61.5	72.2	87.4	98.5	103.4	102.6	93.6	87.4	80.7
80°	40.1	41.5	44.1	48.2	58.9	70.0	73.1	73.1	67.3	65.1	58.4
82.5°	28.1	29.0	30.3	32.1	35.7	45.0	48.6	49.5	46.4	43.3	38.3
85°	17.4	16.9	17.8	19.2	20.1	22.7	28.1	29.0	28.1	24.5	23.2
87.5°	7.6	8.0	8.0	7.6	8.0	8.5	10.7	12.9	11.1	9.8	8.9
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°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2
2.5°	1260.5	1257.4	1251.6	1242.7	1237.3	1228.0	1221.7	1225.3	1226.2	1225.3	1224.4
5°	1231.1	1221.7	1208.8	1196.3	1184.7	1172.2	1165.1	1162.0	1155.7	1152.2	1150.4
7.5°	1197.6	1183.8	1165.5	1145.5	1126.7	1108.9	1100.9	1094.6	1083.0	1076.8	1071.0
10°	1159.3	1133.9	1115.6	1087.1	1069.7	1044.2	1026.9	1027.3	1009.9	1000.1	993.0
12.5°	1116.9	1088.4	1055.0	1030.0	1004.1	984.9	963.1	952.4	933.7	924.3	902.0
15°	1069.2	1036.7	1004.6	969.8	945.3	913.6	883.3	846.3	816.4	790.5	783.4
17.5°	1018.4	978.3	946.6	910.9	872.6	815.1	777.6	754.9	737.0	723.7	713.0
20°	965.8	924.8	890.4	828.9	772.3	736.1	710.3	693.8	675.1	660.3	652.3
22.5°	910.5	867.2	817.3	746.8	705.8	678.6	656.3	636.7	625.6	614.9	607.7
25°	858.8	811.9	734.8	687.5	651.9	621.6	605.5	593.9	580.5	564.9	557.8
27.5°	804.8	730.4	671.9	637.6	601.0	581.9	568.1	548.9	536.8	531.0	523.0
30°	742.8	668.4	625.1	586.8	562.7	540.9	523.9	514.1	502.5	490.5	485.6
32.5°	673.7	618.0	577.0	546.6	522.1	504.3	491.8	474.4	466.8	460.6	449.0
35°	618.9	573.8	535.9	510.1	486.9	471.7	456.1	446.8	431.6	425.4	421.4
37.5°	568.9	529.7	501.2	472.6	454.8	437.0	428.0	412.4	406.6	396.8	388.8
40°	527.9	489.6	462.4	440.1	419.6	407.1	395.0	383.0	373.2	369.2	358.9
42.5°	486.0	456.6	429.4	404.4	392.4	379.0	362.9	354.9	344.7	337.5	332.2
45°	448.1	420.5	397.3	377.2	362.1	348.2	338.4	323.7	317.9	305.0	299.6
47.5°	414.7	387.9	365.6	346.0	330.8	322.8	308.5	295.6	287.6	278.7	271.1
50°	378.6	357.1	335.7	318.8	305.4	292.5	277.8	272.0	257.7	253.7	249.7
52.5°	345.6	325.5	306.3	289.8	276.4	264.0	251.5	243.5	235.0	231.0	228.3
55°	315.2	295.6	276.9	262.2	248.8	235.9	227.8	218.5	214.0	210.9	207.3
57.5°	284.0	266.2	251.5	236.3	222.9	212.2	202.4	197.1	192.6	189.1	184.1
60°	254.6	237.7	224.7	210.9	197.1	188.6	181.5	174.8	169.4	163.2	161.4
62.5°	223.4	209.1	197.5	184.1	172.6	165.0	158.3	152.0	145.4	135.5	132.9
65°	195.3	183.7	171.2	160.1	149.4	141.8	132.0	124.8	122.2	121.3	120.8
67.5°	169.4	158.3	147.6	136.0	126.2	117.7	111.9	111.0	109.2	108.8	107.5
70°	143.6	133.3	122.6	111.9	102.6	101.2	99.4	97.6	95.4	94.5	93.6
72.5°	120.4	109.7	99.0	91.0	88.3	86.5	84.7	82.9	81.6	80.7	80.3
75°	95.9	86.1	78.9	75.8	73.6	72.2	69.6	68.2	67.3	66.0	65.5
77.5°	73.1	66.9	63.3	61.5	58.9	57.5	55.7	54.4	53.1	53.1	52.2
80°	52.6	49.9	47.7	45.0	44.1	42.4	41.9	40.6	41.0	39.7	39.7
82.5°	37.9	34.3	32.5	31.7	30.8	29.4	29.0	28.5	28.5	27.6	27.6
85°	21.0	20.1	19.2	18.3	18.3	16.9	17.4	16.9	16.9	16.1	15.6
87.5°	8.5	8.0	7.1	7.1	7.1	6.7	6.7	6.2	6.2	6.2	5.8
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: P242419

CATALOG NUMBER: S122RDR-S675D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1283.2	1283.2	1283.2	1283.2
2.5°	1219.5	1220.4	1219.0	1219.9
5°	1148.1	1142.8	1141.9	1140.6
7.5°	1063.9	1063.4	1060.7	1057.6
10°	983.2	980.9	980.5	977.4
12.5°	888.6	871.2	869.5	860.5
15°	772.7	770.0	761.1	755.3
17.5°	708.1	699.1	696.0	694.7
20°	646.1	638.1	636.7	635.8
22.5°	603.3	594.8	590.8	587.7
25°	553.3	550.2	548.4	547.5
27.5°	514.1	506.1	505.2	503.0
30°	481.5	479.3	476.2	473.5
32.5°	443.2	441.4	438.7	437.9
35°	416.9	410.7	408.0	404.0
37.5°	387.9	384.3	379.9	381.7
40°	353.1	350.9	350.0	349.6
42.5°	325.5	318.4	315.7	315.7
45°	297.4	291.6	287.6	288.0
47.5°	267.1	267.5	264.9	265.7
50°	246.6	243.9	242.1	242.6
52.5°	227.0	224.7	223.4	225.6
55°	205.1	202.4	202.0	201.5
57.5°	181.5	180.1	177.9	176.6
60°	155.6	152.0	147.6	147.1
62.5°	132.0	132.0	132.0	132.0
65°	119.9	119.5	119.9	120.4
67.5°	107.5	106.6	105.7	106.1
70°	92.7	92.3	91.9	91.9
72.5°	78.5	78.5	78.0	77.6
75°	65.1	64.2	64.2	64.2
77.5°	52.2	51.7	51.3	50.8
80°	39.2	38.8	38.3	38.3
82.5°	27.6	27.2	27.2	26.8
85°	16.1	16.5	16.1	16.9
87.5°	5.8	5.4	5.8	5.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)