

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: P242399

Luminaire Tested: **S122RDR-S675D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242399
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-S675D835-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2486.7 lumens
Efficiency: N/A
Efficacy: 94.2 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

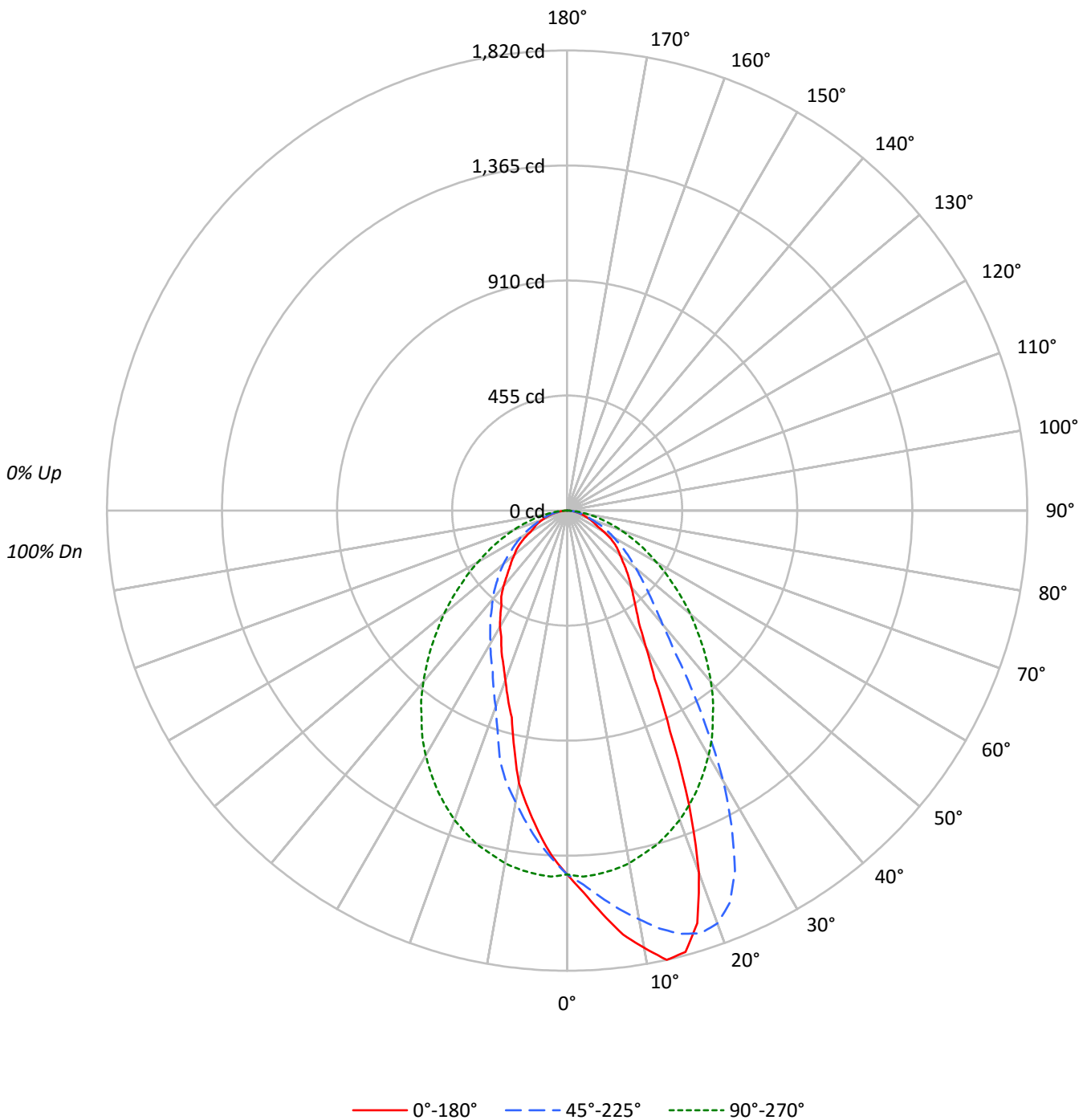
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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			
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°	27412	27412	27412
5°	30614	27583	24457
10°	33966	27390	21200
15°	35635	26988	16703
20°	30894	26394	14453
25°	20262	25580	12904
30°	13637	24592	11679
35°	11045	23348	10534
40°	9822	21993	9747
45°	8889	20405	8701
50°	8090	18832	8060
55°	7605	17086	7505
60°	6362	15486	6286
65°	5363	14062	6085
70°	4957	12558	5736
75°	4636	10929	5299
80°	4278	8995	4717
85°	3934	7103	4152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	5.5
10°-20°	381.0	15.3
20°-30°	490.3	19.7
30°-40°	465.1	18.7
40°-50°	398.6	16.0
50°-60°	303.6	12.2
60°-70°	191.5	7.7
70°-80°	95.5	3.8
80°-90°	24.6	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°	1007.8	40.5
0°-40°	1473.0	59.2
0°-60°	2175.1	87.5
0°-90°	2486.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2486.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1439	1439	1439	1439	1439	
5°	1601	1535	1443	1315	1279	158
15°	1807	1733	1369	1025	847	491
25°	964	1571	1217	697	614	455
35°	475	854	1004	529	453	302
45°	330	450	758	390	323	255
55°	229	280	514	264	226	202
65°	119	160	312	159	135	120
75°	63	70	148	81	72	67
85°	18	18	32	19	19	20
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°	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1
2.5°	1512.1	1513.6	1515.1	1511.6	1511.6	1508.6	1502.1	1497.1	1483.1	1481.1	1481.1
5°	1601.1	1600.1	1602.1	1595.6	1586.6	1584.6	1575.1	1562.6	1549.6	1535.1	1532.1
7.5°	1691.1	1685.1	1682.6	1685.6	1676.1	1663.1	1647.1	1632.1	1609.6	1591.1	1579.6
10°	1756.1	1772.6	1762.6	1745.1	1748.6	1725.1	1712.6	1691.1	1673.1	1641.6	1634.6
12.5°	1820.1	1824.1	1822.6	1814.6	1808.1	1793.6	1775.6	1757.6	1720.6	1693.1	1664.1
15°	1807.1	1816.6	1819.1	1816.1	1818.6	1817.6	1808.6	1793.1	1764.1	1733.1	1706.1
17.5°	1711.1	1722.1	1731.1	1739.1	1751.6	1776.1	1783.6	1786.6	1774.6	1752.6	1730.1
20°	1524.1	1513.1	1559.1	1582.6	1602.6	1652.6	1695.6	1712.1	1738.6	1738.1	1733.1
22.5°	1259.1	1265.1	1308.1	1337.1	1405.1	1455.1	1505.6	1579.1	1636.6	1679.1	1705.1
25°	964.1	983.1	1026.6	1064.6	1129.6	1222.6	1307.1	1405.1	1497.6	1570.6	1640.1
27.5°	750.0	752.5	792.0	830.5	870.5	951.1	1064.1	1181.6	1313.6	1408.6	1528.6
30°	620.0	617.0	631.5	653.0	686.0	745.0	825.0	940.1	1071.6	1235.6	1381.6
32.5°	528.0	529.0	539.0	553.5	579.5	614.5	663.0	751.0	873.5	1034.1	1211.6
35°	475.0	474.5	482.5	494.0	505.5	531.0	568.5	617.5	703.0	853.5	1028.6
37.5°	431.0	433.5	437.0	444.5	458.5	473.5	497.0	531.5	596.5	690.0	847.0
40°	395.0	396.0	401.5	407.5	415.0	426.0	444.5	471.0	515.5	586.5	694.0
42.5°	362.0	363.0	366.5	372.0	377.5	388.5	403.0	425.0	459.0	510.5	594.5
45°	330.0	330.0	333.5	336.0	342.5	352.5	365.0	384.0	409.0	450.0	509.0
47.5°	299.0	299.0	301.5	306.0	310.5	318.5	331.5	347.5	365.5	399.0	451.5
50°	273.0	273.5	275.0	278.5	281.0	288.0	297.5	311.0	330.0	354.5	396.5
52.5°	252.0	251.5	253.5	254.5	256.0	260.5	267.0	278.5	295.0	315.5	348.5
55°	229.0	227.0	230.0	232.5	234.0	236.0	240.0	247.5	262.0	280.0	306.0
57.5°	202.0	201.0	202.5	205.0	209.5	214.5	217.0	222.0	229.5	243.5	271.0
60°	167.0	167.0	171.5	173.0	178.5	185.5	192.5	196.5	204.0	212.5	231.5
62.5°	136.0	136.5	138.0	139.5	142.0	151.0	161.5	171.5	178.5	186.5	197.5
65°	119.0	120.0	120.0	121.0	123.0	125.0	129.0	136.0	148.5	160.0	169.5
67.5°	104.0	104.0	104.5	105.5	106.0	108.5	110.0	113.5	116.0	129.0	142.0
70°	89.0	90.5	90.0	91.0	91.5	92.5	94.5	96.0	100.5	103.0	110.0
72.5°	75.0	76.0	76.0	76.5	78.0	78.0	79.5	81.0	83.5	85.5	88.5
75°	63.0	62.5	63.0	64.0	64.5	65.0	65.0	67.0	68.5	70.5	73.0
77.5°	51.0	51.5	51.5	51.5	51.5	52.5	52.5	53.5	55.0	56.0	57.5
80°	39.0	39.5	39.0	39.5	40.0	40.5	40.0	40.5	42.0	43.0	43.0
82.5°	28.0	28.0	28.5	28.5	28.5	28.5	29.5	29.5	30.5	30.0	30.5
85°	18.0	17.5	17.5	17.5	18.0	18.5	18.0	18.0	18.5	18.5	18.5
87.5°	8.0	8.5	8.5	8.5	8.5	8.5	8.5	9.0	8.5	9.0	8.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1
2.5°	1482.1	1478.1	1474.6	1465.6	1461.1	1451.1	1449.6	1449.1	1436.1	1423.6	1420.1
5°	1524.1	1516.1	1504.1	1490.1	1475.6	1460.6	1450.6	1442.6	1422.6	1403.6	1392.6
7.5°	1565.6	1551.1	1532.1	1508.1	1487.6	1463.6	1447.1	1432.1	1404.6	1379.6	1363.1
10°	1613.1	1585.1	1557.6	1521.1	1492.6	1464.6	1438.6	1416.1	1384.1	1348.1	1322.6
12.5°	1642.6	1611.1	1570.6	1535.1	1496.1	1458.6	1421.6	1391.1	1352.1	1314.6	1283.1
15°	1668.6	1635.6	1589.6	1538.6	1491.1	1444.6	1404.6	1368.6	1319.6	1275.1	1238.1
17.5°	1692.6	1647.1	1599.6	1540.6	1488.1	1431.6	1381.1	1336.1	1282.6	1230.1	1188.1
20°	1703.1	1658.1	1601.1	1542.1	1477.1	1407.6	1352.1	1302.1	1243.6	1185.1	1135.1
22.5°	1696.6	1664.1	1599.1	1525.6	1458.6	1385.1	1320.6	1260.6	1194.1	1134.1	1074.1
25°	1662.6	1650.6	1590.6	1513.6	1437.6	1353.1	1280.6	1217.1	1143.1	1079.1	1016.1
27.5°	1600.1	1617.6	1575.1	1491.6	1409.6	1318.6	1239.6	1168.1	1092.6	1021.1	958.1
30°	1501.1	1560.6	1544.6	1468.6	1374.1	1285.1	1193.6	1118.1	1036.1	962.1	900.0
32.5°	1365.6	1473.6	1497.1	1436.6	1338.1	1238.1	1141.1	1066.1	979.6	900.5	840.5
35°	1220.1	1367.1	1434.6	1394.1	1296.1	1190.6	1091.6	1004.1	918.0	841.0	781.0
37.5°	1047.6	1243.6	1347.6	1343.1	1249.6	1142.1	1034.6	948.1	859.5	783.5	721.0
40°	880.5	1097.6	1244.1	1276.6	1200.6	1082.1	973.1	884.5	798.5	724.5	650.0
42.5°	730.5	946.6	1135.1	1197.6	1141.1	1023.6	914.0	820.5	737.5	668.5	592.0
45°	615.0	804.0	1002.6	1103.6	1070.1	961.1	845.5	757.5	679.0	618.5	545.5
47.5°	532.5	670.0	869.5	1001.6	997.6	894.0	779.0	694.5	620.5	564.5	502.5
50°	464.0	580.0	742.5	897.5	910.5	827.0	719.0	635.5	567.5	508.0	460.5
52.5°	402.5	493.0	635.0	782.0	825.0	755.5	651.5	576.0	510.5	457.0	418.0
55°	350.5	424.5	535.5	674.5	730.5	679.5	586.5	514.5	461.0	415.0	380.0
57.5°	305.0	363.0	455.5	572.0	635.5	601.0	521.5	462.0	414.5	371.5	343.5
60°	262.5	308.0	383.5	477.0	549.0	526.5	461.0	406.5	367.5	331.5	305.5
62.5°	222.5	260.0	322.0	393.5	458.0	452.0	401.5	358.0	325.0	293.0	272.0
65°	185.5	214.0	264.5	324.0	377.0	381.5	343.0	312.0	281.5	255.5	236.0
67.5°	153.5	173.0	211.0	263.5	304.0	318.0	292.0	267.0	242.0	221.0	203.5
70°	124.5	139.5	165.5	206.0	242.5	257.5	244.0	225.5	204.5	188.0	173.5
72.5°	95.0	109.5	127.0	154.0	184.0	200.5	198.0	186.0	170.0	157.0	143.5
75°	76.0	80.5	93.5	113.5	138.0	152.0	155.5	148.5	135.0	124.5	116.5
77.5°	59.0	62.0	69.0	81.0	98.0	110.5	116.0	115.0	105.0	98.0	90.5
80°	45.0	46.5	49.5	54.0	66.0	78.5	82.0	82.0	75.5	73.0	65.5
82.5°	31.5	32.5	34.0	36.0	40.0	50.5	54.5	55.5	52.0	48.5	43.0
85°	19.5	19.0	20.0	21.5	22.5	25.5	31.5	32.5	31.5	27.5	26.0
87.5°	8.5	9.0	9.0	8.5	9.0	9.5	12.0	14.5	12.5	11.0	10.0
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°	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1	1439.1
2.5°	1413.6	1410.1	1403.6	1393.6	1387.6	1377.1	1370.1	1374.1	1375.1	1374.1	1373.1
5°	1380.6	1370.1	1355.6	1341.6	1328.6	1314.6	1306.6	1303.1	1296.1	1292.1	1290.1
7.5°	1343.1	1327.6	1307.1	1284.6	1263.6	1243.6	1234.6	1227.6	1214.6	1207.6	1201.1
10°	1300.1	1271.6	1251.1	1219.1	1199.6	1171.1	1151.6	1152.1	1132.6	1121.6	1113.6
12.5°	1252.6	1220.6	1183.1	1155.1	1126.1	1104.6	1080.1	1068.1	1047.1	1036.6	1011.6
15°	1199.1	1162.6	1126.6	1087.6	1060.1	1024.6	990.6	949.1	915.5	886.5	878.5
17.5°	1142.1	1097.1	1061.6	1021.6	978.6	914.0	872.0	846.5	826.5	811.5	799.5
20°	1083.1	1037.1	998.6	929.6	866.0	825.5	796.5	778.0	757.0	740.5	731.5
22.5°	1021.1	972.6	916.5	837.5	791.5	761.0	736.0	714.0	701.5	689.5	681.5
25°	963.1	910.5	824.0	771.0	731.0	697.0	679.0	666.0	651.0	633.5	625.5
27.5°	902.5	819.0	753.5	715.0	674.0	652.5	637.0	615.5	602.0	595.5	586.5
30°	833.0	749.5	701.0	658.0	631.0	606.5	587.5	576.5	563.5	550.0	544.5
32.5°	755.5	693.0	647.0	613.0	585.5	565.5	551.5	532.0	523.5	516.5	503.5
35°	694.0	643.5	601.0	572.0	546.0	529.0	511.5	501.0	484.0	477.0	472.5
37.5°	638.0	594.0	562.0	530.0	510.0	490.0	480.0	462.5	456.0	445.0	436.0
40°	592.0	549.0	518.5	493.5	470.5	456.5	443.0	429.5	418.5	414.0	402.5
42.5°	545.0	512.0	481.5	453.5	440.0	425.0	407.0	398.0	386.5	378.5	372.5
45°	502.5	471.5	445.5	423.0	406.0	390.5	379.5	363.0	356.5	342.0	336.0
47.5°	465.0	435.0	410.0	388.0	371.0	362.0	346.0	331.5	322.5	312.5	304.0
50°	424.5	400.5	376.5	357.5	342.5	328.0	311.5	305.0	289.0	284.5	280.0
52.5°	387.5	365.0	343.5	325.0	310.0	296.0	282.0	273.0	263.5	259.0	256.0
55°	353.5	331.5	310.5	294.0	279.0	264.5	255.5	245.0	240.0	236.5	232.5
57.5°	318.5	298.5	282.0	265.0	250.0	238.0	227.0	221.0	216.0	212.0	206.5
60°	285.5	266.5	252.0	236.5	221.0	211.5	203.5	196.0	190.0	183.0	181.0
62.5°	250.5	234.5	221.5	206.5	193.5	185.0	177.5	170.5	163.0	152.0	149.0
65°	219.0	206.0	192.0	179.5	167.5	159.0	148.0	140.0	137.0	136.0	135.5
67.5°	190.0	177.5	165.5	152.5	141.5	132.0	125.5	124.5	122.5	122.0	120.5
70°	161.0	149.5	137.5	125.5	115.0	113.5	111.5	109.5	107.0	106.0	105.0
72.5°	135.0	123.0	111.0	102.0	99.0	97.0	95.0	93.0	91.5	90.5	90.0
75°	107.5	96.5	88.5	85.0	82.5	81.0	78.0	76.5	75.5	74.0	73.5
77.5°	82.0	75.0	71.0	69.0	66.0	64.5	62.5	61.0	59.5	59.5	58.5
80°	59.0	56.0	53.5	50.5	49.5	47.5	47.0	45.5	46.0	44.5	44.5
82.5°	42.5	38.5	36.5	35.5	34.5	33.0	32.5	32.0	32.0	31.0	31.0
85°	23.5	22.5	21.5	20.5	20.5	19.0	19.5	19.0	19.0	18.0	17.5
87.5°	9.5	9.0	8.0	8.0	8.0	7.5	7.5	7.0	7.0	7.0	6.5
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: P242399

CATALOG NUMBER: S122RDR-S675D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1439.1	1439.1	1439.1	1439.1
2.5°	1367.6	1368.6	1367.1	1368.1
5°	1287.6	1281.6	1280.6	1279.1
7.5°	1193.1	1192.6	1189.6	1186.1
10°	1102.6	1100.1	1099.6	1096.1
12.5°	996.6	977.1	975.1	965.1
15°	866.5	863.5	853.5	847.0
17.5°	794.0	784.0	780.5	779.0
20°	724.5	715.5	714.0	713.0
22.5°	676.5	667.0	662.5	659.0
25°	620.5	617.0	615.0	614.0
27.5°	576.5	567.5	566.5	564.0
30°	540.0	537.5	534.0	531.0
32.5°	497.0	495.0	492.0	491.0
35°	467.5	460.5	457.5	453.0
37.5°	435.0	431.0	426.0	428.0
40°	396.0	393.5	392.5	392.0
42.5°	365.0	357.0	354.0	354.0
45°	333.5	327.0	322.5	323.0
47.5°	299.5	300.0	297.0	298.0
50°	276.5	273.5	271.5	272.0
52.5°	254.5	252.0	250.5	253.0
55°	230.0	227.0	226.5	226.0
57.5°	203.5	202.0	199.5	198.0
60°	174.5	170.5	165.5	165.0
62.5°	148.0	148.0	148.0	148.0
65°	134.5	134.0	134.5	135.0
67.5°	120.5	119.5	118.5	119.0
70°	104.0	103.5	103.0	103.0
72.5°	88.0	88.0	87.5	87.0
75°	73.0	72.0	72.0	72.0
77.5°	58.5	58.0	57.5	57.0
80°	44.0	43.5	43.0	43.0
82.5°	31.0	30.5	30.5	30.0
85°	18.0	18.5	18.0	19.0
87.5°	6.5	6.0	6.5	6.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)