

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: P242296

Luminaire Tested: **S122DR-S675D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242296
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-S675D835-X4F0-XX-UDD-A-W
Description: DEFINE 2 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: 2870.4 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

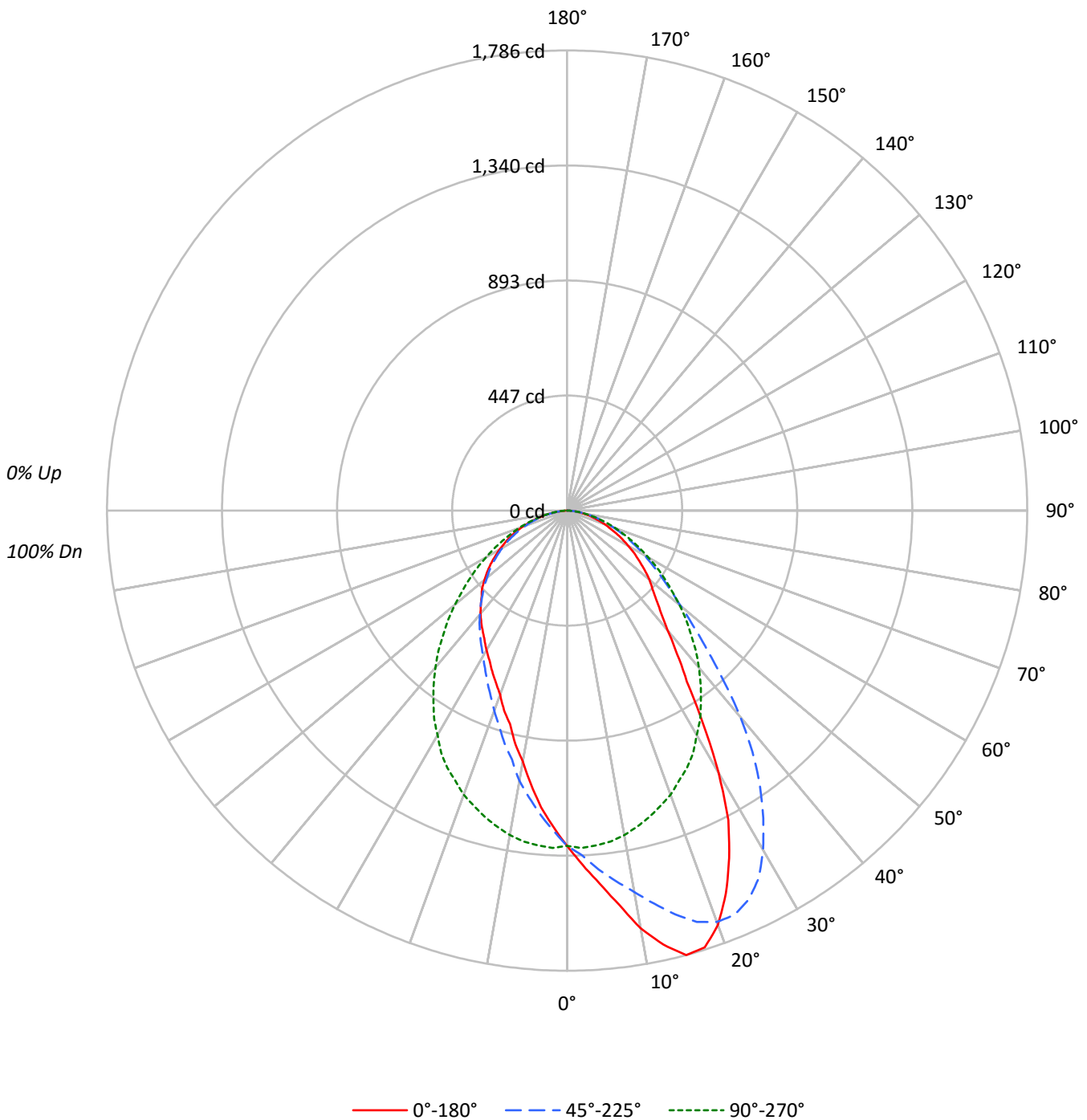
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74					74			
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64					64			
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55					55			
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49					49			
6	74	61	53	47	72	60	52	47	58	51	46	57	51	46	55	50	45	43					43			
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39					39			
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35					35			
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32					32			
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	24783	24783	24783
5°	27786	24945	22105
10°	31840	24740	19131
15°	35223	24287	16902
20°	34686	23799	15407
25°	31277	23152	14462
30°	25846	22118	13771
35°	18837	21035	13280
40°	15046	19758	13007
45°	13148	18280	12636
50°	12357	16849	12387
55°	11391	15396	12055
60°	10438	13848	11543
65°	9510	12462	11042
70°	8632	11111	10303
75°	7654	9604	9126
80°	6581	7953	7349
85°	5901	5901	4371



TEST NUMBER: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.9	4.3
10°-20°	360.7	12.6
20°-30°	523.5	18.2
30°-40°	551.9	19.2
40°-50°	488.3	17.0
50°-60°	389.8	13.6
60°-70°	264.7	9.2
70°-80°	135.5	4.7
80°-90°	32.0	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°	1008.2	35.1
0°-40°	1560.0	54.3
0°-60°	2438.1	84.9
0°-90°	2870.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2870.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1301	1301	1301	1301	1301	
5°	1453	1399	1305	1185	1156	145
15°	1786	1623	1232	937	857	495
25°	1488	1666	1102	733	688	675
35°	810	1305	905	588	571	524
45°	488	773	679	465	469	383
55°	343	444	464	350	363	308
65°	211	264	276	231	245	210
75°	104	128	130	117	124	111
85°	27	30	27	22	20	31
90°	0	0	0	0	0	



TEST NUMBER: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1
2.5°	1376.2	1376.7	1377.7	1369.7	1368.7	1368.7	1361.7	1355.7	1348.7	1339.2	1340.2
5°	1453.2	1458.7	1460.7	1454.7	1445.7	1444.7	1436.2	1422.2	1409.2	1398.7	1391.2
7.5°	1542.2	1544.2	1540.2	1533.2	1527.2	1515.7	1501.7	1488.2	1468.2	1450.2	1437.2
10°	1646.2	1649.2	1640.7	1629.2	1619.7	1605.7	1582.7	1559.2	1530.7	1503.2	1481.2
12.5°	1725.2	1733.7	1722.2	1723.2	1705.2	1684.7	1656.2	1647.2	1604.2	1563.2	1539.2
15°	1786.2	1785.7	1786.7	1777.2	1765.2	1762.2	1733.2	1701.7	1645.2	1622.7	1583.7
17.5°	1777.2	1784.2	1788.2	1785.2	1783.2	1778.7	1766.2	1742.7	1711.7	1673.7	1627.2
20°	1711.2	1721.2	1722.7	1734.2	1740.7	1749.2	1752.7	1747.2	1729.7	1699.2	1660.2
22.5°	1609.2	1610.2	1615.7	1635.2	1651.2	1675.7	1688.7	1713.2	1709.2	1698.2	1667.2
25°	1488.2	1483.2	1500.7	1509.7	1542.2	1576.2	1600.7	1627.7	1651.7	1666.2	1656.7
27.5°	1354.2	1343.7	1370.2	1393.7	1416.7	1449.7	1486.7	1530.7	1564.2	1609.7	1620.7
30°	1175.1	1179.6	1204.6	1230.1	1270.1	1322.1	1365.2	1414.7	1468.2	1520.7	1557.2
32.5°	982.1	1002.6	1016.1	1058.6	1092.6	1152.1	1220.1	1285.1	1355.2	1416.7	1478.2
35°	810.1	830.1	852.1	880.6	930.1	987.6	1049.1	1132.6	1223.6	1305.1	1372.2
37.5°	701.1	697.6	711.1	732.1	774.6	824.1	897.1	982.1	1091.1	1181.6	1271.6
40°	605.1	603.1	612.1	631.1	661.6	695.6	757.6	830.1	929.6	1046.6	1159.1
42.5°	539.1	541.1	545.1	557.1	575.6	602.1	644.6	703.6	792.6	901.1	1024.1
45°	488.1	491.6	497.1	503.6	515.6	538.6	564.6	608.6	680.6	772.6	891.6
47.5°	448.1	449.1	455.1	461.1	468.1	482.1	505.1	533.1	588.1	666.6	773.1
50°	417.0	413.5	417.5	422.0	429.5	438.5	452.6	478.6	512.6	573.1	658.6
52.5°	379.0	380.0	383.5	384.5	391.0	400.0	412.5	428.5	458.6	502.6	569.1
55°	343.0	345.5	347.5	350.5	356.5	363.0	373.0	385.0	409.0	444.5	496.6
57.5°	309.0	310.0	311.5	318.0	321.5	327.5	337.5	348.5	364.5	392.0	433.0
60°	274.0	274.0	278.0	280.5	285.5	291.5	299.0	309.5	323.5	345.0	376.5
62.5°	242.0	241.5	242.5	247.0	250.5	256.0	263.5	272.0	285.0	303.5	328.0
65°	211.0	210.0	213.0	214.0	218.0	223.5	229.5	239.0	249.5	263.5	286.5
67.5°	180.0	181.5	183.5	185.5	187.5	194.0	198.0	205.0	214.0	226.0	242.0
70°	155.0	155.0	155.0	156.5	159.5	162.5	166.5	172.0	180.5	190.5	204.5
72.5°	127.0	129.0	131.0	129.5	133.5	135.0	140.0	142.5	150.5	156.0	168.0
75°	104.0	104.0	104.0	106.5	108.0	109.5	112.5	115.5	119.5	127.5	134.0
77.5°	82.0	81.5	82.0	82.5	84.5	86.5	87.5	90.0	94.0	98.0	104.0
80°	60.0	61.0	61.5	62.5	62.5	63.5	64.0	67.5	70.0	72.5	76.0
82.5°	43.0	43.0	43.0	43.0	43.5	44.0	45.5	46.0	46.5	48.5	51.0
85°	27.0	26.5	26.5	27.5	27.0	27.0	28.0	29.0	29.0	29.5	31.0
87.5°	13.0	13.0	13.5	13.0	13.0	13.5	13.5	13.0	13.5	14.0	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



TEST NUMBER: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1
2.5°	1343.7	1339.7	1337.1	1328.1	1320.1	1312.1	1309.6	1310.6	1299.6	1289.1	1284.6
5°	1387.2	1377.2	1367.7	1354.2	1338.2	1320.6	1311.6	1304.6	1287.1	1268.1	1257.1
7.5°	1426.7	1413.7	1396.7	1372.7	1350.7	1324.6	1308.6	1295.1	1270.6	1245.1	1229.6
10°	1462.2	1442.7	1419.2	1388.2	1359.7	1326.1	1302.6	1279.1	1249.1	1217.1	1197.1
12.5°	1492.7	1464.7	1441.7	1399.7	1364.7	1320.6	1291.6	1256.1	1224.1	1184.6	1165.1
15°	1544.7	1496.2	1452.2	1407.2	1365.7	1307.1	1276.1	1231.6	1190.1	1143.1	1120.6
17.5°	1583.2	1530.7	1462.7	1408.2	1362.2	1299.6	1255.1	1202.1	1155.1	1103.1	1073.1
20°	1615.2	1552.7	1478.2	1410.2	1352.2	1278.1	1228.6	1174.1	1116.6	1056.1	1023.1
22.5°	1634.2	1567.7	1494.2	1402.7	1332.1	1260.6	1195.1	1134.1	1075.6	1009.1	974.1
25°	1635.2	1575.2	1497.2	1399.2	1316.1	1234.6	1159.6	1101.6	1031.1	970.1	919.6
27.5°	1618.7	1571.2	1495.7	1392.2	1297.6	1204.1	1122.6	1059.1	984.6	918.6	868.1
30°	1582.2	1557.2	1484.2	1380.2	1274.6	1172.1	1080.1	1005.6	931.6	864.6	812.6
32.5°	1525.7	1525.2	1463.2	1363.2	1250.1	1131.6	1035.6	960.1	876.1	810.6	761.6
35°	1448.2	1472.2	1431.7	1336.1	1218.1	1093.6	990.6	904.6	819.6	756.6	710.1
37.5°	1349.7	1405.2	1389.2	1300.1	1177.1	1053.1	941.1	851.1	769.6	704.6	659.1
40°	1247.1	1323.1	1334.1	1257.6	1133.1	1004.6	884.1	794.6	715.6	657.6	611.6
42.5°	1137.1	1229.1	1264.1	1206.6	1085.1	953.6	833.1	739.6	661.6	605.6	566.1
45°	1011.6	1129.1	1183.6	1148.6	1030.6	896.6	772.6	678.6	607.6	554.6	523.1
47.5°	898.1	1025.6	1095.1	1078.6	972.1	839.1	716.6	625.1	554.6	511.6	482.1
50°	776.1	908.1	996.6	1000.6	908.1	776.6	653.6	568.6	505.1	465.6	442.5
52.5°	670.1	794.6	893.1	918.6	836.6	711.6	597.1	512.6	458.6	423.0	403.0
55°	580.6	687.1	794.1	833.1	765.6	645.6	538.1	463.6	411.0	386.0	368.0
57.5°	495.6	589.1	690.6	731.6	688.6	583.1	479.1	413.5	369.0	346.5	332.5
60°	431.0	501.1	589.1	640.6	604.6	513.1	425.0	363.5	328.5	309.0	296.0
62.5°	371.0	431.0	502.1	548.1	532.6	447.6	371.0	318.5	289.5	271.5	263.0
65°	316.0	365.0	422.5	466.1	453.1	387.5	323.0	276.5	252.5	238.0	230.5
67.5°	269.0	306.5	347.5	387.5	376.5	328.0	273.5	236.0	217.5	204.5	200.0
70°	225.0	252.0	287.5	318.0	309.5	271.5	230.5	199.5	184.0	173.5	169.0
72.5°	183.0	204.0	229.0	252.5	247.5	217.5	185.0	163.5	152.5	143.0	139.5
75°	144.5	161.5	178.0	194.5	193.0	168.5	148.5	130.5	121.0	113.5	112.0
77.5°	113.0	123.5	135.5	146.0	143.5	127.5	111.0	100.0	92.5	87.5	87.0
80°	81.5	87.0	95.0	102.0	98.5	92.5	80.0	72.5	67.5	62.5	60.5
82.5°	53.5	59.0	63.0	66.0	63.5	58.0	51.5	47.0	44.5	41.5	41.0
85°	31.0	34.0	36.0	37.0	36.0	32.5	29.0	27.0	24.5	23.0	22.5
87.5°	15.0	15.0	15.0	16.0	14.5	14.5	12.5	11.0	10.5	10.0	9.0
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: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1	1301.1
2.5°	1279.6	1276.6	1266.1	1260.6	1251.6	1243.1	1237.6	1240.1	1242.1	1241.1	1239.6
5°	1247.1	1237.6	1223.1	1210.6	1201.6	1185.1	1178.1	1174.6	1171.6	1168.1	1164.6
7.5°	1211.1	1197.6	1177.1	1161.1	1145.1	1124.1	1113.6	1107.6	1101.1	1093.6	1086.6
10°	1172.1	1151.1	1129.1	1104.1	1084.1	1065.6	1049.1	1038.1	1028.1	1018.6	1011.6
12.5°	1131.1	1106.1	1077.6	1041.1	1018.6	990.1	991.1	969.6	952.6	947.6	939.1
15°	1087.1	1053.1	1018.6	978.1	960.6	936.6	921.6	906.6	893.1	883.6	881.1
17.5°	1039.1	993.6	960.1	930.1	901.6	877.1	864.1	852.1	840.6	826.6	826.1
20°	982.6	944.6	907.1	881.6	852.1	827.1	810.1	798.1	788.6	781.1	774.6
22.5°	929.1	886.6	853.1	824.6	795.6	776.6	764.1	752.6	745.1	736.6	730.6
25°	871.1	838.6	801.1	769.6	745.6	732.6	721.6	711.6	706.6	701.1	694.1
27.5°	821.6	785.6	748.6	724.1	702.1	690.6	682.1	674.6	670.1	666.6	662.1
30°	768.6	732.1	704.6	680.6	663.1	651.6	646.6	642.6	637.1	635.1	633.1
32.5°	717.6	685.6	663.1	643.1	626.6	620.1	615.6	612.1	608.1	606.1	601.6
35°	670.1	642.6	619.6	608.1	594.6	588.1	584.6	579.6	575.6	573.6	573.1
37.5°	624.6	599.6	584.1	568.6	562.1	558.6	553.6	550.1	548.6	548.1	547.6
40°	580.6	561.1	547.6	535.6	533.1	527.1	523.1	520.1	520.1	520.6	520.1
42.5°	540.6	523.6	512.1	502.1	499.1	496.1	492.1	492.6	493.6	495.6	493.6
45°	500.1	487.6	479.1	474.1	468.6	465.1	464.6	466.1	466.6	467.1	468.6
47.5°	462.1	454.1	446.1	440.0	437.5	437.0	436.0	438.5	441.0	441.5	444.0
50°	429.0	419.5	413.0	409.5	407.5	406.5	407.5	410.5	412.5	415.0	416.5
52.5°	392.0	386.0	382.0	379.5	379.0	380.0	380.0	383.5	387.0	387.5	388.0
55°	358.5	353.5	352.5	348.0	350.0	349.5	352.0	354.0	357.0	360.0	360.5
57.5°	324.5	320.0	317.0	317.5	318.0	320.0	322.0	325.5	329.0	332.5	332.5
60°	290.5	288.5	287.0	287.0	288.0	291.0	293.5	297.0	299.0	301.0	302.5
62.5°	259.5	257.5	256.0	257.0	260.0	261.5	264.5	266.0	268.0	270.0	270.5
65°	226.5	225.5	227.0	228.0	228.5	231.0	234.5	236.0	238.0	239.0	242.5
67.5°	196.5	196.5	196.0	197.5	200.5	201.0	204.5	208.5	208.5	210.5	213.0
70°	166.0	167.0	168.0	169.0	171.5	172.5	175.0	176.5	178.5	180.0	181.5
72.5°	138.0	138.0	139.0	138.5	140.5	143.0	145.0	146.5	148.5	150.5	152.0
75°	110.5	110.5	111.5	112.0	114.5	117.0	116.5	117.5	119.5	121.5	122.5
77.5°	85.5	84.5	85.5	86.0	87.0	89.0	89.5	91.0	93.5	93.0	94.0
80°	61.5	60.0	61.5	62.0	62.0	64.5	64.5	65.5	67.0	65.5	67.0
82.5°	39.5	39.0	40.0	40.0	41.0	40.5	41.5	41.5	43.0	42.5	43.0
85°	22.0	21.5	22.0	21.5	22.0	22.5	22.5	22.0	22.0	23.0	21.5
87.5°	8.5	8.0	7.5	7.5	7.0	6.5	6.0	6.0	6.0	5.0	5.0
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: P242296

CATALOG NUMBER: S122DR-S675D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1301.1	1301.1	1301.1	1301.1
2.5°	1234.6	1233.6	1233.6	1229.1
5°	1157.6	1156.1	1153.6	1156.1
7.5°	1084.6	1078.1	1077.1	1072.1
10°	1003.1	999.1	998.6	989.1
12.5°	941.1	930.1	932.6	928.1
15°	867.6	867.6	865.6	857.1
17.5°	815.1	814.6	810.1	813.1
20°	769.1	766.1	760.1	760.1
22.5°	725.6	726.1	719.6	722.1
25°	693.6	689.6	686.6	688.1
27.5°	660.6	659.1	658.6	654.1
30°	632.6	627.6	628.6	626.1
32.5°	600.6	599.6	598.1	596.1
35°	572.1	572.6	570.1	571.1
37.5°	546.6	548.6	547.1	547.1
40°	521.6	521.6	521.6	523.1
42.5°	497.6	496.6	495.6	495.1
45°	469.6	471.1	471.6	469.1
47.5°	445.0	445.5	445.0	448.1
50°	419.0	418.0	419.0	418.0
52.5°	391.5	392.0	391.0	391.0
55°	362.5	363.5	363.0	363.0
57.5°	333.0	333.5	334.5	332.0
60°	302.0	304.5	304.0	303.0
62.5°	273.5	274.0	274.0	274.0
65°	244.0	245.0	243.5	245.0
67.5°	212.0	212.5	213.5	214.0
70°	182.5	182.0	183.5	185.0
72.5°	151.5	153.0	152.0	153.0
75°	121.5	123.0	122.5	124.0
77.5°	93.0	93.5	93.5	94.0
80°	67.0	66.0	65.0	67.0
82.5°	41.5	42.5	41.5	41.0
85°	21.5	21.0	20.0	20.0
87.5°	5.0	4.5	4.5	4.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)