

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: P242807

Luminaire Tested: **S125DR-S850D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242807
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S125DR-S850D830-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3133.2 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

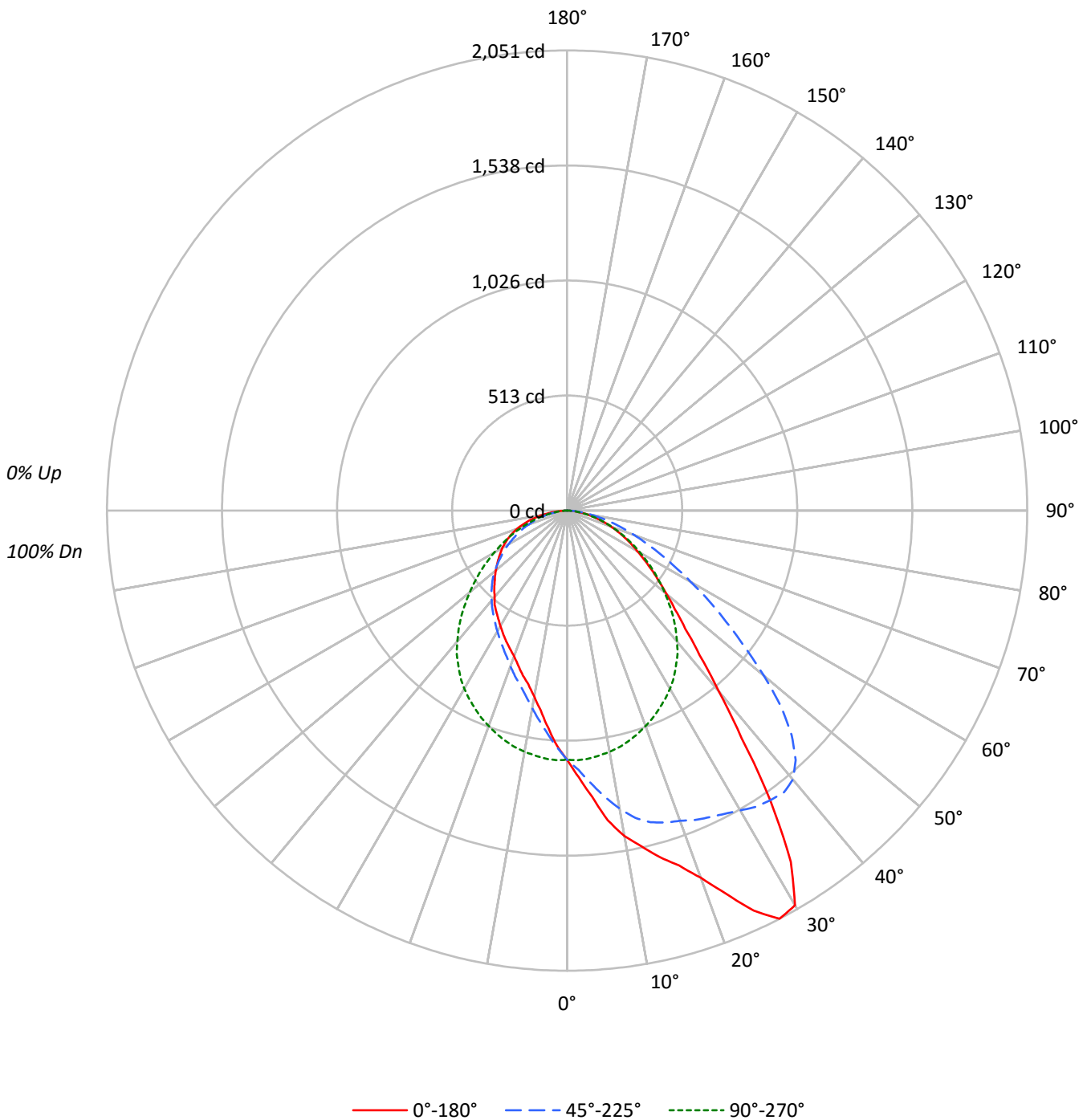
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53
5	78	65	56	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7891	7891	7891
5°	9139	7918	6933
10°	10631	7877	6075
15°	11768	7819	5603
20°	13173	7728	5226
25°	15432	7624	5041
30°	16669	7522	4881
35°	13705	7331	4776
40°	9741	7065	4661
45°	7484	6707	4594
50°	6389	6263	4585
55°	5688	5828	4624
60°	5132	5352	4742
65°	4739	4874	4865
70°	4308	4376	4935
75°	3803	3855	4891
80°	3201	3143	4474
85°	2536	2267	3613



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.9	3.4
10°-20°	318.3	10.2
20°-30°	517.0	16.5
30°-40°	631.8	20.2
40°-50°	573.2	18.3
50°-60°	456.6	14.6
60°-70°	318.0	10.1
70°-80°	169.4	5.4
80°-90°	42.0	1.3
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°	942.2	30.1
0°-40°	1574.0	50.2
0°-60°	2603.8	83.1
0°-90°	3133.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3133.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1110	1110	1110	1110	1110	
5°	1281	1220	1110	998	972	129
15°	1599	1438	1063	806	762	457
25°	1968	1508	972	675	643	902
35°	1580	1576	845	573	550	969
45°	745	1414	667	474	457	592
55°	459	867	470	361	373	413
65°	282	460	290	244	289	280
75°	138	204	140	128	178	149
85°	31	41	28	30	44	36
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°	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3
2.5°	1190.4	1188.5	1186.6	1182.8	1185.7	1177.7	1173.9	1167.3	1159.3	1156.4	1153.1
5°	1280.9	1283.2	1285.6	1275.7	1276.6	1270.0	1254.9	1242.7	1232.8	1220.1	1211.1
7.5°	1393.0	1385.9	1386.4	1380.3	1369.4	1360.5	1345.9	1325.6	1307.2	1286.5	1268.6
10°	1473.1	1473.6	1469.4	1461.8	1450.0	1441.6	1420.8	1401.0	1377.0	1348.7	1328.5
12.5°	1533.4	1535.8	1530.1	1519.3	1515.1	1493.4	1478.3	1453.8	1424.1	1402.9	1369.4
15°	1599.4	1594.2	1590.5	1577.7	1567.8	1548.1	1522.1	1497.6	1466.5	1437.8	1409.0
17.5°	1657.9	1662.1	1656.0	1646.5	1617.3	1594.2	1562.2	1531.1	1493.9	1458.0	1424.6
20°	1741.7	1745.5	1734.7	1714.4	1677.6	1654.6	1608.8	1565.5	1520.7	1471.2	1433.5
22.5°	1846.4	1841.6	1826.1	1792.6	1762.0	1714.4	1664.0	1608.8	1549.9	1492.4	1439.2
25°	1967.9	1948.1	1939.2	1901.0	1859.1	1796.4	1728.5	1651.3	1581.5	1507.5	1443.4
27.5°	2050.9	2042.9	2030.1	1999.0	1951.0	1879.8	1799.7	1707.3	1613.6	1523.1	1442.5
30°	2031.1	2032.0	2033.0	2024.5	1996.2	1945.8	1866.1	1764.8	1648.0	1542.9	1445.8
32.5°	1855.8	1877.0	1897.2	1923.6	1940.6	1941.1	1898.7	1809.6	1688.5	1565.5	1443.9
35°	1579.6	1584.8	1638.1	1690.8	1762.5	1818.1	1855.3	1814.8	1713.5	1576.3	1442.5
37.5°	1277.1	1303.0	1343.1	1402.4	1509.9	1597.5	1712.5	1752.1	1704.5	1585.3	1442.0
40°	1049.9	1073.5	1097.5	1158.3	1245.5	1357.7	1492.9	1608.4	1635.2	1565.5	1427.9
42.5°	874.6	892.1	919.4	961.3	1030.6	1126.8	1254.5	1414.2	1523.5	1508.0	1398.2
45°	744.6	756.4	777.1	813.4	866.2	943.9	1058.0	1222.9	1366.6	1414.2	1347.8
47.5°	652.2	652.7	669.6	695.6	735.6	807.2	892.5	1028.3	1183.3	1293.1	1277.6
50°	577.8	575.4	588.1	609.8	640.0	683.8	764.4	867.6	1015.1	1143.7	1179.5
52.5°	513.7	514.6	521.2	535.8	559.8	595.7	650.8	741.3	861.9	994.8	1070.2
55°	459.0	457.1	466.1	476.9	495.3	519.8	563.1	634.3	736.6	866.6	954.3
57.5°	406.2	411.4	415.2	422.7	438.7	455.7	494.3	549.0	633.4	748.8	841.7
60°	361.0	366.2	369.0	376.5	388.8	402.9	431.2	473.6	541.9	638.1	730.0
62.5°	320.4	324.2	324.7	331.3	340.7	354.4	375.1	409.0	459.5	540.5	630.1
65°	281.8	281.8	283.7	290.8	295.5	307.7	324.7	350.6	394.0	459.5	536.3
67.5°	244.1	246.5	246.0	249.3	253.5	263.9	276.6	298.3	332.7	382.2	445.8
70°	207.3	209.2	208.8	211.1	215.8	222.0	231.9	252.1	275.2	316.2	369.0
72.5°	174.4	174.8	173.4	176.7	179.1	184.3	195.6	204.1	225.3	258.2	299.2
75°	138.5	139.5	140.4	142.3	145.1	148.0	153.6	164.5	178.6	204.5	232.3
77.5°	110.3	107.9	110.7	110.3	111.7	114.0	119.2	125.4	137.6	155.0	178.1
80°	78.2	78.7	78.7	79.2	81.5	82.9	87.2	91.4	100.4	112.6	127.7
82.5°	51.8	53.3	52.3	53.3	55.1	56.1	58.0	61.3	65.5	74.5	84.4
85°	31.1	28.7	29.7	30.6	30.6	31.1	33.0	34.4	37.2	41.0	45.2
87.5°	11.3	12.3	12.7	12.7	13.2	13.2	15.1	15.1	16.5	17.9	19.8
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°	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3
2.5°	1150.3	1147.0	1143.3	1136.7	1128.6	1124.4	1117.8	1113.6	1105.1	1098.0	1090.5
5°	1200.3	1188.0	1176.7	1162.1	1146.1	1135.7	1123.5	1109.8	1095.7	1081.0	1065.0
7.5°	1250.2	1230.0	1207.8	1184.7	1162.1	1140.9	1121.1	1100.8	1082.5	1059.4	1040.0
10°	1300.6	1273.3	1244.1	1209.7	1176.2	1147.0	1117.3	1091.4	1065.0	1036.7	1011.8
12.5°	1351.1	1312.4	1268.1	1229.5	1187.5	1150.8	1114.5	1079.6	1044.8	1012.7	982.6
15°	1369.4	1337.4	1299.2	1245.5	1200.3	1151.7	1105.6	1062.7	1022.6	987.7	951.0
17.5°	1387.4	1346.4	1305.8	1254.0	1195.1	1142.8	1090.5	1043.8	999.5	955.7	922.2
20°	1391.6	1349.2	1306.3	1255.9	1195.1	1132.9	1080.6	1021.7	973.1	927.4	884.1
22.5°	1390.2	1340.7	1293.1	1240.8	1181.9	1125.8	1059.8	999.5	945.8	901.0	855.3
25°	1379.8	1328.5	1270.0	1217.7	1159.3	1098.5	1034.4	972.2	918.5	867.1	822.3
27.5°	1373.7	1308.7	1244.6	1184.2	1128.2	1072.1	1009.9	945.8	886.9	834.6	793.1
30°	1360.0	1287.0	1212.5	1148.9	1090.9	1036.7	978.8	916.6	854.4	803.5	758.2
32.5°	1347.8	1259.6	1180.0	1109.3	1047.1	994.8	942.5	884.1	823.3	771.4	726.2
35°	1331.3	1232.8	1142.8	1064.6	999.0	944.9	900.1	844.9	788.9	738.9	695.6
37.5°	1312.0	1197.9	1102.7	1021.2	950.0	893.5	851.1	808.2	752.1	703.1	664.5
40°	1288.4	1160.2	1058.0	974.1	899.6	840.2	801.6	761.5	716.8	672.0	630.5
42.5°	1258.7	1126.3	1012.7	920.8	847.3	789.8	748.8	716.3	678.1	637.1	599.4
45°	1221.0	1083.9	963.2	866.2	791.7	734.7	692.7	667.3	637.6	598.0	565.5
47.5°	1171.1	1035.8	911.4	811.0	734.2	681.4	641.4	616.4	594.7	563.6	533.0
50°	1099.9	980.7	854.4	754.9	678.1	624.9	588.6	566.4	548.5	525.9	500.9
52.5°	1020.3	911.4	798.3	700.3	624.4	572.1	536.8	517.9	503.8	489.2	464.7
55°	935.0	840.7	733.3	640.0	569.7	518.4	487.3	470.3	458.1	445.8	430.7
57.5°	843.1	766.7	668.2	581.1	516.0	468.0	438.7	421.3	411.4	404.8	395.4
60°	745.0	681.9	599.9	522.1	459.0	417.5	389.3	376.5	368.5	363.3	356.7
62.5°	654.1	605.1	530.6	461.4	408.1	369.5	345.0	332.7	325.2	323.3	318.1
65°	565.0	525.0	462.3	403.4	356.3	322.8	301.6	289.8	285.1	282.3	282.7
67.5°	475.5	449.6	397.3	345.4	306.8	277.1	259.7	250.7	248.3	244.1	244.1
70°	394.9	376.5	334.1	290.3	256.8	235.2	220.1	210.6	208.3	206.4	205.9
72.5°	323.7	308.2	272.9	239.9	210.6	192.3	180.5	175.8	171.5	170.6	170.6
75°	254.0	245.0	215.8	188.0	167.3	154.1	145.6	140.4	137.6	137.1	137.6
77.5°	191.8	183.3	163.1	142.3	128.7	118.3	110.3	108.9	105.1	105.6	104.6
80°	135.7	130.5	118.8	103.2	92.4	83.9	80.1	76.8	75.9	74.5	75.9
82.5°	89.1	83.4	76.3	67.9	59.4	55.1	51.4	50.9	50.4	50.0	50.0
85°	48.5	49.0	44.3	36.8	33.0	30.2	27.8	27.8	27.3	26.9	27.3
87.5°	20.7	19.8	17.9	16.5	14.1	12.7	12.3	12.7	11.3	10.8	11.3
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°	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3	1110.3
2.5°	1086.2	1081.0	1076.8	1067.4	1062.2	1055.1	1049.5	1055.6	1049.0	1051.8	1047.6
5°	1057.0	1043.8	1034.4	1020.7	1008.9	998.1	990.1	988.7	984.9	983.0	977.4
7.5°	1022.1	1007.1	991.5	974.5	960.4	945.3	936.4	927.9	922.7	916.1	910.9
10°	992.0	969.8	951.0	929.3	910.5	894.0	880.8	874.2	868.0	859.1	855.8
12.5°	954.8	931.7	907.6	884.1	866.2	847.3	836.5	825.6	821.9	811.5	811.0
15°	926.5	892.1	869.5	845.9	820.9	805.8	796.4	785.6	780.9	773.8	768.6
17.5°	891.6	860.5	832.2	808.2	785.6	773.3	761.1	753.5	745.5	740.3	731.8
20°	853.0	823.7	795.5	769.5	753.1	738.4	729.0	722.0	713.5	711.1	702.6
22.5°	820.4	787.5	760.6	739.9	721.5	704.5	694.1	689.9	684.7	676.2	676.2
25°	784.6	751.2	728.1	706.4	690.4	675.3	668.2	662.1	656.5	651.3	649.4
27.5°	754.5	724.8	696.5	676.7	663.0	648.9	642.8	634.8	630.5	626.3	620.6
30°	722.4	691.8	667.8	648.9	633.8	621.6	615.0	609.8	606.0	602.3	599.4
32.5°	689.4	661.6	638.5	620.2	605.1	596.6	590.9	587.6	583.4	578.7	574.9
35°	661.2	630.1	607.4	591.4	579.6	572.6	566.0	562.7	558.0	558.0	554.2
37.5°	627.7	600.4	580.1	565.5	555.1	548.5	541.0	539.1	535.8	533.9	532.5
40°	598.5	573.5	554.7	540.1	528.7	523.6	517.9	514.1	512.2	509.9	508.9
42.5°	568.3	544.8	526.9	513.7	504.2	500.0	494.8	492.5	488.2	484.9	484.4
45°	537.7	514.6	498.1	487.3	478.8	473.6	470.3	464.7	462.8	459.0	458.5
47.5°	509.4	486.8	470.3	461.4	453.8	450.0	444.9	438.7	436.4	434.0	433.5
50°	476.9	456.6	441.6	433.1	426.0	419.9	414.7	410.9	409.5	409.5	410.5
52.5°	443.9	427.4	415.2	404.3	397.7	391.1	386.4	384.5	382.2	385.0	386.9
55°	411.9	394.4	385.0	375.1	368.5	361.0	358.6	357.7	356.3	360.0	361.9
57.5°	377.5	365.7	354.4	344.0	338.4	333.6	329.9	329.4	332.2	333.2	338.8
60°	345.0	330.8	320.9	313.4	306.3	303.5	302.5	301.6	303.5	308.7	316.7
62.5°	309.1	298.3	287.5	282.3	277.6	272.4	272.4	273.3	277.6	283.7	291.7
65°	274.3	264.4	257.3	250.7	246.5	243.6	244.6	246.5	250.7	258.7	267.7
67.5°	238.5	231.9	225.3	219.1	214.9	215.4	215.8	218.2	223.4	232.8	241.3
70°	204.1	196.5	191.3	189.0	185.7	183.8	186.6	191.3	195.6	204.1	211.1
72.5°	169.6	163.5	159.8	158.3	157.4	156.0	156.5	161.6	167.8	176.2	184.7
75°	135.7	133.4	130.5	128.7	127.2	128.2	129.1	133.8	138.5	147.5	156.9
77.5°	105.1	102.3	100.4	99.9	99.0	99.4	101.8	105.6	110.3	116.9	124.4
80°	74.9	74.0	73.0	72.6	72.6	73.0	76.8	79.2	83.4	89.5	95.2
82.5°	49.5	49.0	49.0	49.0	49.5	49.5	51.4	54.7	58.0	62.2	66.9
85°	28.7	27.8	29.2	29.7	28.7	30.2	31.1	33.0	34.4	36.8	39.1
87.5°	11.8	12.7	12.3	12.7	12.7	13.7	13.2	15.1	16.0	17.0	16.5
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: P242807

CATALOG NUMBER: S125DR-S850D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1110.3	1110.3	1110.3	1110.3
2.5°	1044.8	1048.1	1045.2	1049.0
5°	975.0	970.8	973.6	971.7
7.5°	910.5	906.7	901.0	899.1
10°	850.6	845.4	844.9	841.7
12.5°	806.8	802.1	795.5	794.5
15°	765.8	762.0	758.7	761.5
17.5°	730.9	727.6	726.7	723.8
20°	698.4	696.0	697.0	690.9
22.5°	672.5	667.3	666.3	666.3
25°	645.1	642.8	640.4	642.8
27.5°	621.1	618.8	617.8	618.3
30°	599.4	594.7	595.2	594.7
32.5°	575.9	573.0	572.1	571.2
35°	552.8	552.8	550.4	550.4
37.5°	531.6	531.1	529.7	530.6
40°	507.1	506.6	505.2	502.4
42.5°	483.5	481.6	481.1	480.7
45°	458.5	458.5	457.6	457.1
47.5°	434.0	435.0	436.8	436.4
50°	412.3	412.8	414.2	414.7
52.5°	388.3	391.6	393.5	393.0
55°	366.2	369.5	372.8	373.2
57.5°	344.0	348.3	351.6	352.5
60°	321.4	327.5	331.8	333.6
62.5°	299.7	306.8	311.0	311.0
65°	275.7	282.7	286.5	289.3
67.5°	250.7	257.8	261.5	263.9
70°	222.9	230.0	235.6	237.5
72.5°	195.6	201.7	205.9	208.3
75°	163.1	171.5	175.8	178.1
77.5°	131.9	140.4	142.8	144.2
80°	100.8	105.6	108.9	109.3
82.5°	71.6	75.4	75.9	77.3
85°	42.4	44.3	44.8	44.3
87.5°	17.4	17.0	17.0	17.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)