

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: P243677

Luminaire Tested: **S125DR-H850D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243677
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-61)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S125DR-H850D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3313.3 lumens
Efficiency: N/A
Efficacy: 140.4 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.22 / 1.53
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

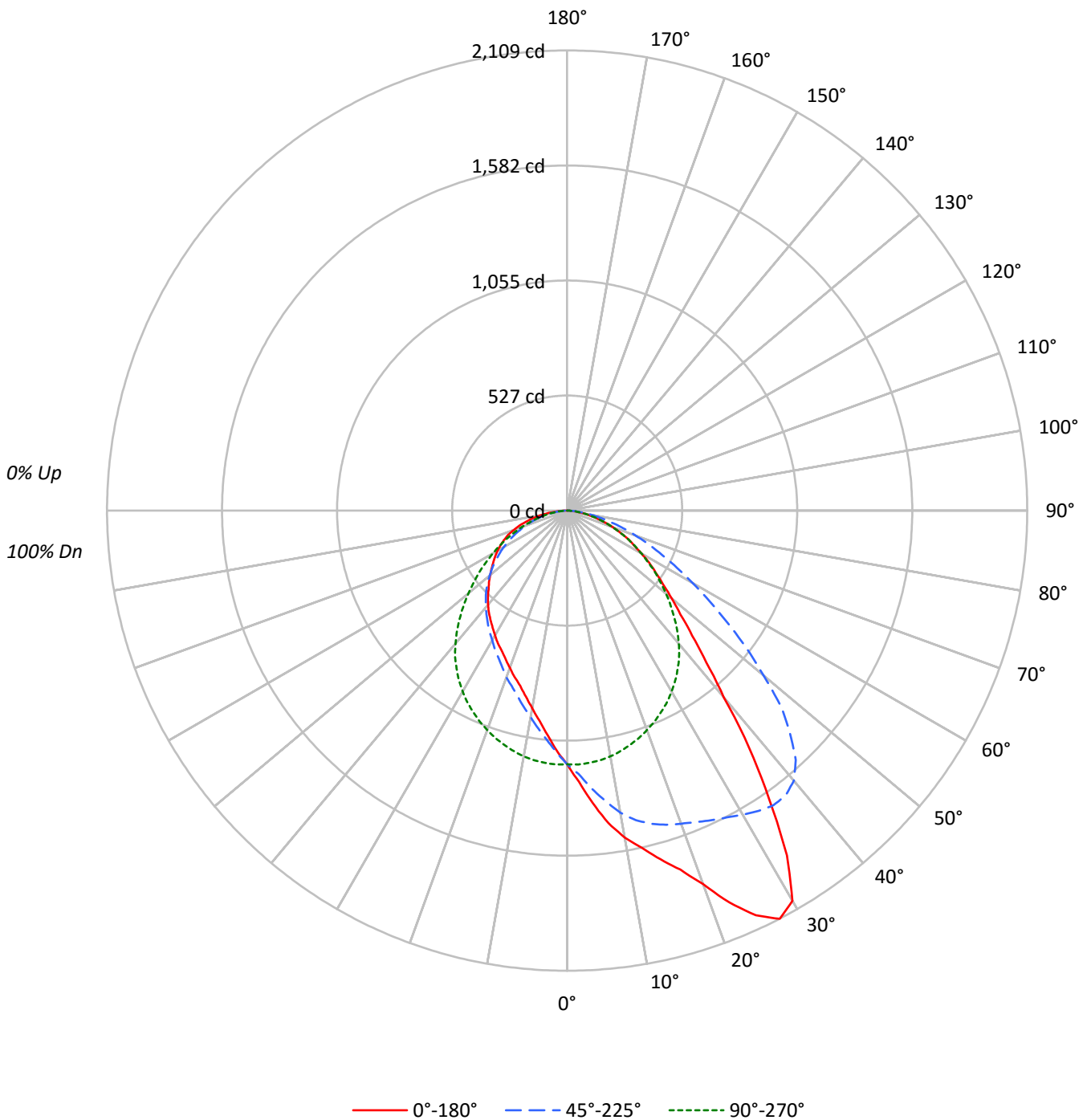
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

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	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	56	66	61	56	64	59	55	53
5	78	65	56	50	75	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	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	36	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°	8262	8262	8262
5°	9599	8281	7359
10°	10983	8254	6641
15°	12175	8179	6119
20°	13784	8097	5805
25°	16052	7993	5560
30°	16946	7861	5424
35°	14013	7669	5309
40°	10366	7392	5231
45°	8151	6990	5117
50°	6902	6537	5098
55°	6145	6087	5118
60°	5575	5589	5227
65°	5170	5121	5375
70°	4644	4584	5407
75°	3963	4026	5333
80°	3242	3299	4977
85°	2226	2349	4232



TEST NUMBER: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	3.4
10°-20°	335.6	10.1
20°-30°	545.6	16.5
30°-40°	663.8	20.0
40°-50°	607.4	18.3
50°-60°	486.1	14.7
60°-70°	338.5	10.2
70°-80°	179.9	5.4
80°-90°	44.2	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°	993.5	30.0
0°-40°	1657.2	50.0
0°-60°	2750.7	83.0
0°-90°	3313.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3313.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1162	1162	1162	1162	1162	
5°	1346	1278	1161	1056	1032	134
15°	1655	1486	1112	879	832	475
25°	2047	1566	1019	744	709	935
35°	1615	1649	884	634	612	1001
45°	811	1445	695	525	509	640
55°	496	897	491	401	413	447
65°	307	479	304	269	320	303
75°	144	212	147	140	194	156
85°	27	40	29	32	52	35
90°	0	0	0	0	0	



TEST NUMBER: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5
2.5°	1244.6	1239.4	1238.0	1238.4	1235.6	1233.3	1227.6	1220.1	1214.9	1208.3	1206.4
5°	1345.5	1332.7	1335.1	1331.3	1325.2	1317.2	1310.1	1298.8	1287.9	1277.6	1263.9
7.5°	1444.5	1442.1	1435.5	1434.6	1424.7	1411.0	1396.8	1381.3	1358.2	1342.2	1323.8
10°	1521.8	1526.5	1517.1	1517.5	1500.1	1486.4	1474.2	1453.9	1428.0	1406.3	1379.4
12.5°	1584.0	1585.9	1584.5	1578.3	1567.0	1543.9	1532.1	1510.9	1482.6	1452.9	1432.2
15°	1654.7	1649.5	1641.5	1634.0	1617.5	1601.0	1576.5	1551.5	1515.6	1485.9	1455.8
17.5°	1725.4	1724.5	1714.6	1698.5	1677.8	1656.1	1619.4	1587.3	1549.1	1510.0	1472.3
20°	1822.5	1817.3	1802.7	1784.3	1746.2	1715.5	1669.8	1625.9	1576.0	1527.0	1483.1
22.5°	1944.2	1927.2	1912.6	1884.3	1840.4	1787.2	1735.8	1672.1	1602.4	1544.9	1490.2
25°	2046.9	2039.4	2023.8	1992.2	1942.3	1878.2	1801.8	1729.7	1642.0	1565.6	1494.4
27.5°	2109.2	2105.9	2096.4	2066.7	2025.2	1961.6	1880.0	1788.1	1688.6	1585.4	1500.1
30°	2064.8	2065.3	2070.5	2067.2	2048.8	2007.8	1935.2	1842.8	1727.8	1609.0	1501.5
32.5°	1874.4	1887.1	1927.7	1947.0	1972.9	1981.4	1948.9	1872.0	1760.8	1632.5	1506.2
35°	1615.1	1646.2	1673.6	1730.1	1797.5	1852.7	1884.8	1859.8	1774.4	1648.6	1508.6
37.5°	1370.9	1368.6	1411.0	1472.3	1543.9	1637.7	1728.7	1778.7	1750.9	1645.3	1504.3
40°	1117.3	1139.0	1165.4	1219.6	1303.5	1419.0	1527.4	1634.4	1673.1	1616.1	1487.8
42.5°	943.8	953.7	980.1	1022.5	1082.9	1200.7	1307.7	1445.4	1544.4	1551.0	1451.5
45°	810.9	821.7	829.2	871.2	927.3	1006.5	1116.3	1254.9	1387.9	1445.4	1392.6
47.5°	704.3	710.4	726.9	752.4	789.2	859.4	947.1	1073.0	1217.7	1329.4	1311.5
50°	624.2	628.9	642.1	656.2	686.4	738.3	809.0	912.2	1051.3	1173.4	1213.5
52.5°	553.5	559.6	566.2	579.9	607.7	642.6	700.1	780.7	909.9	1034.8	1098.4
55°	495.9	498.3	505.4	515.7	537.0	563.4	609.1	682.2	772.7	897.1	984.8
57.5°	446.0	443.6	451.2	458.2	472.4	494.5	527.5	581.7	668.0	774.1	865.5
60°	392.2	394.6	400.2	405.9	415.8	435.1	461.1	504.4	567.6	662.8	756.2
62.5°	346.0	347.9	349.3	357.3	366.3	380.0	401.2	436.5	488.9	567.6	651.0
65°	307.4	304.1	306.0	311.6	318.7	330.0	349.8	375.7	414.9	479.0	548.3
67.5°	262.1	263.1	263.5	266.8	273.0	283.8	297.9	319.2	351.2	401.7	462.5
70°	223.5	223.9	224.4	227.2	232.4	238.5	248.4	264.9	292.3	331.4	379.0
72.5°	183.9	185.7	185.7	188.1	191.9	195.2	204.6	218.3	239.0	270.1	310.2
75°	144.3	147.6	148.5	151.3	154.6	155.6	162.6	173.5	186.7	212.1	243.7
77.5°	112.2	112.2	114.1	117.4	117.4	120.2	127.8	132.5	142.8	160.3	184.3
80°	79.2	80.6	80.6	81.6	83.4	85.8	89.1	93.3	102.3	115.0	127.8
82.5°	51.9	52.3	52.8	55.2	54.2	56.6	58.0	63.2	67.4	73.5	81.6
85°	27.3	27.3	27.8	29.2	30.6	31.1	32.1	34.4	37.7	40.5	45.3
87.5°	11.3	10.8	10.8	11.8	11.8	12.3	12.7	13.7	15.6	15.6	17.4
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: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5
2.5°	1205.0	1201.2	1194.6	1188.9	1181.9	1176.7	1171.5	1164.9	1158.3	1151.2	1143.7
5°	1253.1	1241.7	1229.0	1216.3	1201.2	1188.9	1175.7	1160.7	1147.9	1133.8	1118.7
7.5°	1308.2	1288.4	1266.3	1241.3	1217.7	1196.5	1174.8	1154.1	1135.2	1114.0	1093.2
10°	1361.5	1327.1	1299.3	1265.3	1231.8	1200.7	1171.0	1143.7	1116.3	1089.9	1064.5
12.5°	1397.8	1358.7	1323.8	1284.6	1245.5	1206.4	1167.3	1129.5	1097.0	1065.0	1038.1
15°	1422.8	1395.4	1349.2	1302.1	1250.7	1199.8	1155.5	1111.6	1073.0	1035.7	1003.7
17.5°	1438.3	1403.0	1357.7	1308.2	1251.6	1198.4	1145.1	1092.8	1048.5	1008.4	972.1
20°	1442.6	1401.1	1353.9	1302.6	1246.0	1187.5	1127.7	1070.6	1022.5	976.8	940.0
22.5°	1438.3	1390.2	1339.8	1289.8	1230.4	1171.0	1108.3	1046.1	990.9	943.8	905.1
25°	1431.3	1373.3	1320.5	1261.5	1206.4	1149.8	1085.2	1019.2	961.7	912.7	869.3
27.5°	1422.3	1355.8	1290.8	1232.8	1172.9	1117.3	1057.9	990.5	930.6	876.9	836.3
30°	1411.9	1332.7	1260.6	1191.8	1135.2	1079.6	1021.6	957.9	897.6	846.2	802.4
32.5°	1400.1	1308.2	1223.4	1149.3	1089.0	1037.6	983.4	922.6	863.2	808.0	769.8
35°	1383.6	1274.7	1183.3	1103.1	1040.4	984.8	937.2	883.9	825.0	773.6	734.0
37.5°	1364.3	1245.0	1142.7	1056.0	987.6	930.6	886.8	843.4	788.2	738.7	700.5
40°	1338.4	1209.2	1099.8	1006.0	933.0	876.9	834.0	796.7	751.0	701.0	666.6
42.5°	1304.4	1169.6	1051.3	951.3	880.6	820.8	780.7	746.7	707.6	664.2	630.3
45°	1265.8	1124.4	997.1	899.0	822.2	765.1	726.0	695.4	665.7	627.0	595.4
47.5°	1205.4	1071.1	948.0	839.6	764.2	709.0	672.3	643.0	620.9	590.2	559.1
50°	1133.8	1010.7	890.1	781.2	704.8	651.5	616.6	591.2	572.3	548.7	525.2
52.5°	1055.1	942.9	826.4	724.6	648.2	597.8	561.0	538.4	526.1	507.3	488.9
55°	963.1	866.5	758.1	665.2	590.2	538.8	507.3	491.2	477.6	468.1	451.6
57.5°	870.7	789.2	692.5	600.6	531.8	486.0	457.8	439.8	429.9	423.3	411.6
60°	769.8	705.7	617.1	537.4	476.1	432.8	407.8	393.2	384.2	380.4	372.4
62.5°	673.7	624.6	544.0	477.6	422.9	384.7	359.7	347.9	342.3	338.0	333.3
65°	578.9	540.3	476.6	414.4	368.2	333.8	314.0	304.5	300.3	295.6	295.1
67.5°	493.6	458.2	407.3	356.4	317.7	288.5	271.1	261.6	256.9	257.4	255.0
70°	409.7	382.3	340.8	299.4	266.4	243.3	226.8	220.6	218.7	218.3	216.4
72.5°	331.4	315.9	279.6	244.7	218.7	200.8	187.6	182.4	180.1	179.1	179.1
75°	262.6	251.3	220.2	193.8	174.0	159.3	150.4	146.6	143.3	145.2	143.8
77.5°	197.1	187.6	166.4	147.6	132.5	120.2	116.0	112.7	110.8	110.3	112.2
80°	138.6	132.9	119.7	104.7	93.3	86.3	83.4	80.6	79.2	78.3	79.2
82.5°	89.1	85.8	76.4	67.4	60.8	57.0	54.2	52.8	50.4	50.9	51.9
85°	48.6	47.6	41.5	38.7	32.5	32.1	30.2	28.8	29.2	28.3	29.7
87.5°	19.8	18.9	17.4	16.0	14.1	12.7	11.8	12.7	11.3	12.7	12.3
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: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5	1162.5
2.5°	1139.9	1134.7	1128.6	1122.9	1114.5	1108.8	1106.0	1106.9	1103.6	1102.7	1102.2
5°	1109.7	1098.0	1086.6	1077.2	1067.3	1056.0	1048.0	1045.6	1044.7	1042.3	1037.1
7.5°	1078.6	1063.5	1048.9	1035.3	1021.1	1007.9	999.9	993.3	989.5	982.9	981.5
10°	1045.6	1027.2	1011.7	991.9	974.9	961.2	950.9	945.2	941.9	935.8	930.6
12.5°	1014.0	994.7	970.7	952.8	934.8	920.7	908.9	899.5	897.1	889.1	884.9
15°	980.1	956.5	934.8	914.1	897.1	879.2	872.1	863.7	855.2	848.1	846.7
17.5°	947.6	919.3	898.1	877.8	857.1	843.9	834.4	828.8	822.2	818.4	811.8
20°	908.4	885.3	861.8	842.9	825.0	813.7	801.0	795.8	791.1	782.1	779.3
22.5°	875.4	847.6	827.8	809.0	792.9	776.9	768.0	762.8	755.7	751.0	747.2
25°	841.0	817.9	792.9	774.1	760.4	744.4	738.3	731.7	725.5	721.3	717.5
27.5°	807.6	782.1	761.8	743.0	728.8	717.5	709.0	702.0	697.7	694.4	692.1
30°	772.7	749.1	730.2	712.8	696.8	687.3	679.3	676.5	671.8	669.4	665.7
32.5°	741.1	717.0	699.1	684.0	669.9	660.5	655.8	651.5	646.8	642.6	642.1
35°	705.3	684.5	668.0	651.5	641.1	633.6	628.4	624.2	620.4	617.1	615.2
37.5°	673.7	653.9	635.5	623.7	612.4	605.8	600.1	598.7	594.9	595.4	592.6
40°	639.7	621.8	606.3	594.5	586.9	579.9	576.1	571.4	569.0	569.5	567.1
42.5°	606.7	590.2	576.1	565.2	557.2	552.0	548.7	545.0	542.1	540.3	539.8
45°	573.3	558.6	546.9	536.0	529.4	524.7	520.5	515.7	513.4	512.4	512.0
47.5°	540.3	527.1	514.3	506.8	500.7	496.4	492.2	488.4	486.5	485.1	482.7
50°	506.3	493.1	484.2	474.7	469.5	463.9	459.2	457.3	454.9	454.5	456.8
52.5°	471.0	460.6	452.6	445.0	438.9	432.8	428.1	425.7	427.1	427.1	429.9
55°	437.5	426.6	419.1	413.0	406.4	400.7	396.0	396.0	396.0	398.8	402.6
57.5°	400.2	390.8	385.2	378.1	372.0	368.2	364.9	364.4	366.3	371.0	375.3
60°	362.5	355.9	349.8	344.1	338.0	335.2	334.7	333.8	336.6	341.3	350.3
62.5°	325.3	321.0	313.5	310.7	305.5	302.2	302.2	303.1	307.4	314.9	322.9
65°	289.5	283.3	277.7	274.8	271.5	268.7	268.7	272.5	278.6	285.7	295.6
67.5°	252.7	247.5	243.7	240.9	237.1	235.7	237.1	241.4	248.9	256.0	266.4
70°	213.1	212.1	208.8	205.1	203.2	203.2	204.6	209.3	215.0	225.8	234.8
72.5°	176.8	176.8	174.9	172.5	171.1	172.5	173.5	178.2	185.3	194.7	204.6
75°	143.8	142.4	141.0	140.0	139.5	140.5	141.9	145.7	154.2	163.1	171.1
77.5°	111.3	110.3	108.9	109.8	109.8	110.3	114.6	118.8	123.5	130.6	139.1
80°	80.1	80.6	79.2	78.7	81.1	82.0	85.3	88.6	91.9	99.9	106.1
82.5°	52.8	53.7	53.3	54.2	55.2	55.2	58.9	62.2	65.1	70.7	75.4
85°	30.2	30.6	30.6	32.1	33.0	32.5	35.8	37.7	39.1	43.4	46.2
87.5°	13.2	13.7	14.1	14.1	14.1	16.0	16.5	17.4	17.9	18.9	20.3
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: P243677

CATALOG NUMBER: S125DR-H850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1162.5	1162.5	1162.5	1162.5
2.5°	1098.0	1097.5	1099.8	1101.3
5°	1033.8	1032.4	1030.5	1031.5
7.5°	976.8	973.0	972.1	972.1
10°	926.4	922.6	921.6	920.2
12.5°	883.5	877.8	875.4	873.1
15°	842.9	842.0	836.8	831.6
17.5°	805.7	807.1	801.9	799.5
20°	774.6	770.3	768.4	767.5
22.5°	743.0	739.7	739.7	736.4
25°	714.7	711.9	712.3	709.0
27.5°	688.3	687.8	687.3	686.4
30°	663.8	661.9	660.0	660.9
32.5°	640.2	637.4	636.0	635.5
35°	615.7	614.7	612.9	611.9
37.5°	591.6	592.1	589.8	589.3
40°	565.7	565.2	564.8	563.8
42.5°	538.4	537.0	537.9	537.4
45°	511.0	509.6	510.6	509.1
47.5°	484.2	485.1	485.1	485.6
50°	457.8	459.6	459.6	461.1
52.5°	433.2	437.0	437.0	436.5
55°	406.8	411.1	412.5	413.0
57.5°	381.9	386.1	390.3	391.3
60°	355.0	362.5	366.8	367.7
62.5°	330.9	338.0	343.7	344.1
65°	304.1	312.6	317.7	319.6
67.5°	276.7	283.3	290.4	293.2
70°	245.6	253.6	258.3	260.2
72.5°	213.1	222.0	228.2	229.1
75°	182.0	188.6	193.3	194.2
77.5°	146.6	153.2	157.5	158.4
80°	111.3	116.9	119.7	121.6
82.5°	78.7	82.5	83.9	85.8
85°	48.6	51.4	51.9	51.9
87.5°	21.2	21.7	21.7	22.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)