

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: P243672

Luminaire Tested: **S125DR-H850D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243672
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-H850D835-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3280.9 lumens
Efficiency: N/A
Efficacy: 139.0 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

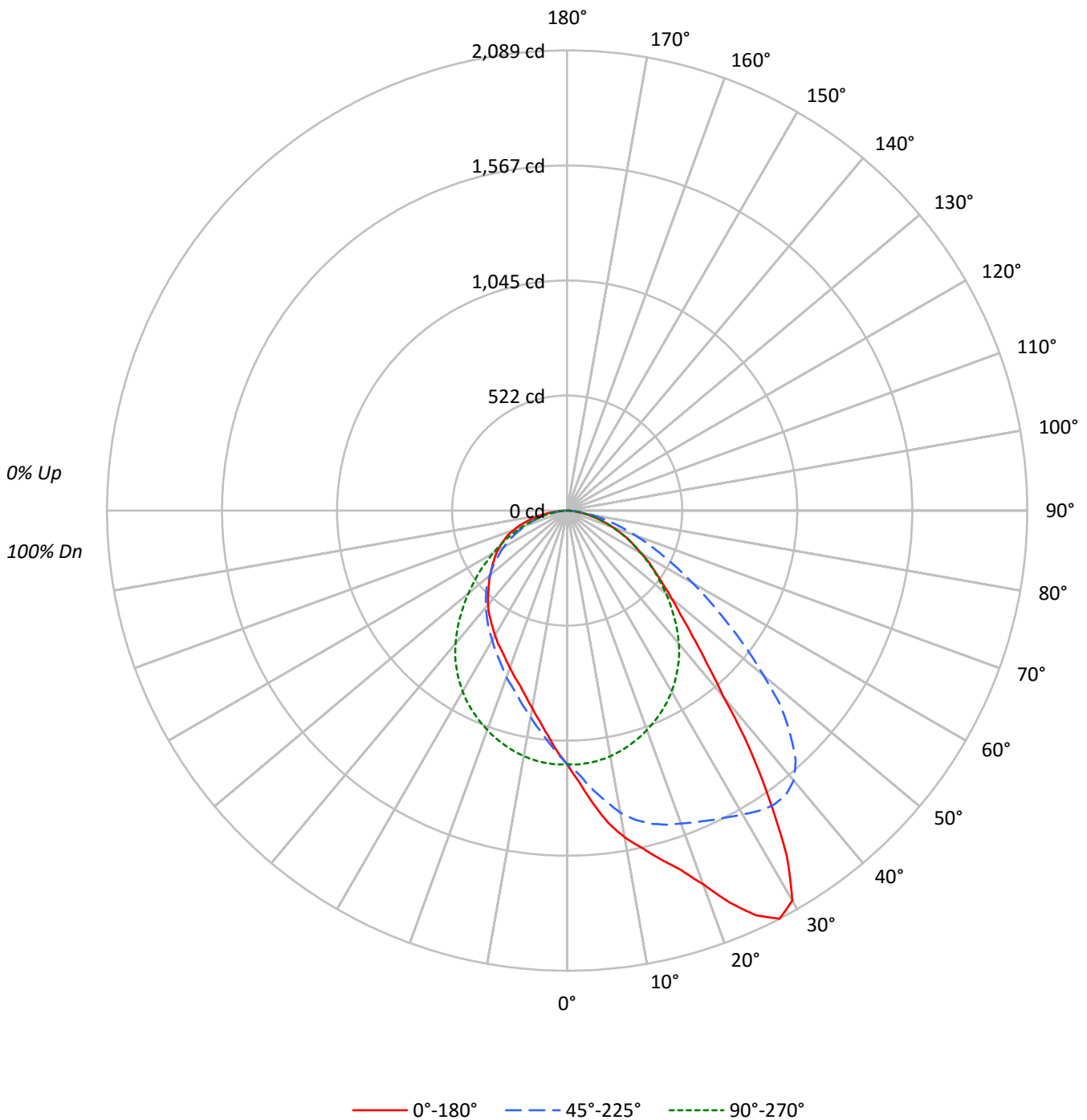
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	8182	8182	8182
5°	9505	8200	7287
10°	10875	8173	6576
15°	12056	8100	6059
20°	13650	8019	5748
25°	15895	7915	5506
30°	16781	7785	5371
35°	13876	7595	5257
40°	10265	7319	5180
45°	8070	6921	5068
50°	6834	6473	5049
55°	6085	6027	5067
60°	5521	5534	5176
65°	5119	5072	5323
70°	4599	4541	5355
75°	3921	3987	5281
80°	3209	3266	4928
85°	2210	2324	4192



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.2	3.4
10°-20°	332.3	10.1
20°-30°	540.3	16.5
30°-40°	657.3	20.0
40°-50°	601.4	18.3
50°-60°	481.3	14.7
60°-70°	335.2	10.2
70°-80°	178.2	5.4
80°-90°	43.7	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°	983.7	30.0
0°-40°	1641.0	50.0
0°-60°	2723.8	83.0
0°-90°	3280.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3280.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1151	1151	1151	1151	1151	
5°	1332	1265	1149	1046	1021	133
15°	1638	1471	1101	871	824	470
25°	2027	1550	1009	737	702	925
35°	1599	1632	875	627	606	992
45°	803	1431	689	520	504	633
55°	491	888	486	397	409	443
65°	304	474	302	266	316	300
75°	143	210	145	139	192	154
85°	27	40	28	32	51	35
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°	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2
2.5°	1232.4	1227.3	1225.9	1226.3	1223.5	1221.2	1215.6	1208.1	1203.0	1196.5	1194.6
5°	1332.3	1319.7	1322.0	1318.3	1312.2	1304.3	1297.3	1286.1	1275.4	1265.1	1251.5
7.5°	1430.3	1428.0	1421.5	1420.5	1410.7	1397.2	1383.2	1367.8	1344.9	1329.0	1310.8
10°	1506.9	1511.6	1502.2	1502.7	1485.4	1471.9	1459.8	1439.7	1414.0	1392.5	1365.9
12.5°	1568.5	1570.4	1569.0	1562.9	1551.7	1528.8	1517.2	1496.2	1468.2	1438.7	1418.2
15°	1638.5	1633.4	1625.5	1618.0	1601.7	1585.3	1561.1	1536.3	1500.8	1471.4	1441.5
17.5°	1708.6	1707.6	1697.8	1682.0	1661.4	1639.9	1603.5	1571.8	1534.0	1495.2	1457.9
20°	1804.7	1799.6	1785.1	1766.9	1729.1	1698.8	1653.5	1610.1	1560.6	1512.0	1468.6
22.5°	1925.2	1908.4	1893.9	1865.9	1822.5	1769.7	1718.8	1655.8	1586.7	1529.8	1475.6
25°	2026.9	2019.5	2004.1	1972.8	1923.3	1859.8	1784.2	1712.8	1625.9	1550.3	1479.8
27.5°	2088.6	2085.3	2076.0	2046.5	2005.5	1942.4	1861.7	1770.7	1672.2	1569.9	1485.4
30°	2044.7	2045.1	2050.3	2047.0	2028.8	1988.2	1916.3	1824.8	1710.9	1593.3	1486.8
32.5°	1856.1	1868.7	1908.8	1928.0	1953.6	1962.0	1929.8	1853.7	1743.6	1616.6	1491.5
35°	1599.3	1630.1	1657.2	1713.2	1780.0	1834.6	1866.4	1841.6	1757.1	1632.5	1493.8
37.5°	1357.5	1355.2	1397.2	1457.9	1528.8	1621.7	1711.8	1761.3	1733.8	1629.2	1489.6
40°	1106.4	1127.8	1154.0	1207.7	1290.8	1405.1	1512.5	1618.5	1656.7	1600.3	1473.3
42.5°	934.6	944.4	970.5	1012.5	1072.3	1189.0	1295.0	1431.3	1529.3	1535.8	1437.3
45°	802.9	813.7	821.1	862.7	918.2	996.7	1105.4	1242.7	1374.3	1431.3	1379.0
47.5°	697.4	703.5	719.8	745.0	781.5	851.0	937.8	1062.5	1205.8	1316.4	1298.7
50°	618.1	622.7	635.8	649.8	679.7	731.0	801.1	903.3	1041.0	1161.9	1201.6
52.5°	548.0	554.1	560.7	574.2	601.7	636.3	693.2	773.1	901.0	1024.7	1087.7
55°	491.1	493.4	500.4	510.7	531.7	557.9	603.1	675.5	765.1	888.4	975.2
57.5°	441.6	439.3	446.7	453.8	467.8	489.7	522.4	576.1	661.5	766.5	857.1
60°	388.4	390.7	396.3	401.9	411.7	430.9	456.6	499.5	562.1	656.4	748.8
62.5°	342.6	344.5	345.9	353.9	362.7	376.3	397.3	432.3	484.1	562.1	644.7
65°	304.4	301.1	303.0	308.6	315.6	326.8	346.4	372.1	410.8	474.3	542.9
67.5°	259.6	260.5	261.0	264.2	270.3	281.0	295.0	316.0	347.8	397.7	458.0
70°	221.3	221.7	222.2	225.0	230.1	236.2	246.0	262.4	289.4	328.2	375.3
72.5°	182.1	183.9	183.9	186.3	190.0	193.3	202.6	216.1	236.7	267.5	307.2
75°	142.8	146.1	147.0	149.8	153.1	154.1	161.1	171.8	184.9	210.1	241.3
77.5°	111.1	111.1	113.0	116.2	116.2	119.0	126.5	131.2	141.4	158.7	182.5
80°	78.4	79.8	79.8	80.8	82.6	85.0	88.2	92.4	101.3	113.9	126.5
82.5°	51.4	51.8	52.3	54.6	53.7	56.0	57.4	62.6	66.8	72.8	80.8
85°	27.1	27.1	27.5	28.9	30.3	30.8	31.7	34.1	37.3	40.1	44.8
87.5°	11.2	10.7	10.7	11.7	11.7	12.1	12.6	13.5	15.4	15.4	17.3
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2
2.5°	1193.2	1189.5	1182.9	1177.3	1170.3	1165.2	1160.1	1153.5	1147.0	1140.0	1132.5
5°	1240.8	1229.6	1217.0	1204.4	1189.5	1177.3	1164.3	1149.3	1136.7	1122.7	1107.8
7.5°	1295.4	1275.8	1253.9	1229.1	1205.8	1184.8	1163.3	1142.8	1124.1	1103.1	1082.6
10°	1348.2	1314.1	1286.6	1252.9	1219.8	1189.0	1159.6	1132.5	1105.4	1079.3	1054.1
12.5°	1384.1	1345.4	1310.8	1272.1	1233.3	1194.6	1155.8	1118.5	1086.3	1054.5	1027.9
15°	1408.9	1381.8	1336.0	1289.4	1238.5	1188.1	1144.2	1100.8	1062.5	1025.6	993.9
17.5°	1424.3	1389.3	1344.4	1295.4	1239.4	1186.7	1133.9	1082.1	1038.2	998.5	962.6
20°	1428.5	1387.4	1340.7	1289.8	1233.8	1175.9	1116.6	1060.2	1012.5	967.3	930.8
22.5°	1424.3	1376.7	1326.7	1277.2	1218.4	1159.6	1097.5	1035.9	981.3	934.6	896.3
25°	1417.3	1359.9	1307.6	1249.2	1194.6	1138.6	1074.6	1009.3	952.3	903.8	860.8
27.5°	1408.4	1342.6	1278.2	1220.7	1161.5	1106.4	1047.5	980.8	921.5	868.3	828.1
30°	1398.1	1319.7	1248.3	1180.1	1124.1	1069.0	1011.6	948.6	888.8	837.9	794.5
32.5°	1386.5	1295.4	1211.4	1138.1	1078.4	1027.5	973.8	913.6	854.7	800.1	762.3
35°	1370.1	1262.3	1171.7	1092.4	1030.3	975.2	928.0	875.3	816.9	766.1	726.8
37.5°	1351.0	1232.9	1131.6	1045.7	978.0	921.5	878.1	835.1	780.5	731.5	693.7
40°	1325.3	1197.4	1089.1	996.2	923.8	868.3	825.8	788.9	743.6	694.2	660.1
42.5°	1291.7	1158.2	1041.0	942.0	872.0	812.7	773.1	739.4	700.7	657.8	624.1
45°	1253.4	1113.4	987.3	890.2	814.1	757.7	718.9	688.6	659.2	620.9	589.6
47.5°	1193.7	1060.6	938.8	831.4	756.7	702.1	665.7	636.7	614.8	584.5	553.7
50°	1122.7	1000.9	881.4	773.5	697.9	645.1	610.6	585.4	566.7	543.4	520.0
52.5°	1044.7	933.6	818.3	717.5	641.9	591.9	555.5	533.1	521.0	502.3	484.1
55°	953.7	858.0	750.6	658.7	584.5	533.6	502.3	486.4	472.9	463.6	447.2
57.5°	862.2	781.5	685.8	594.7	526.6	481.3	453.3	435.5	425.7	419.2	407.5
60°	762.3	698.8	611.1	532.2	471.5	428.5	403.8	389.3	380.5	376.7	368.8
62.5°	667.1	618.5	538.7	472.9	418.7	380.9	356.2	344.5	338.9	334.7	330.0
65°	573.3	535.0	472.0	410.3	364.6	330.5	310.9	301.6	297.4	292.7	292.2
67.5°	488.8	453.8	403.3	352.9	314.6	285.7	268.4	259.1	254.4	254.9	252.6
70°	405.7	378.6	337.5	296.4	263.8	240.9	224.5	218.5	216.6	216.1	214.3
72.5°	328.2	312.8	276.8	242.3	216.6	198.9	185.8	180.7	178.3	177.4	177.4
75°	260.0	248.8	218.0	191.9	172.3	157.8	148.9	145.2	141.9	143.8	142.4
77.5°	195.1	185.8	164.8	146.1	131.2	119.0	114.8	111.6	109.7	109.2	111.1
80°	137.2	131.6	118.6	103.6	92.4	85.4	82.6	79.8	78.4	77.5	78.4
82.5°	88.2	85.0	75.6	66.8	60.2	56.5	53.7	52.3	49.9	50.4	51.4
85°	48.1	47.1	41.1	38.3	32.2	31.7	29.9	28.5	28.9	28.0	29.4
87.5°	19.6	18.7	17.3	15.9	14.0	12.6	11.7	12.6	11.2	12.6	12.1
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°	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2	1151.2
2.5°	1128.8	1123.6	1117.6	1112.0	1103.6	1098.0	1095.2	1096.1	1092.8	1091.9	1091.4
5°	1098.9	1087.2	1076.0	1066.7	1056.9	1045.7	1037.7	1035.4	1034.5	1032.1	1027.0
7.5°	1068.1	1053.1	1038.7	1025.1	1011.1	998.1	990.1	983.6	979.9	973.3	971.9
10°	1035.4	1017.2	1001.8	982.2	965.4	951.8	941.6	936.0	932.7	926.6	921.5
12.5°	1004.1	985.0	961.2	943.4	925.7	911.7	900.0	890.7	888.4	880.4	876.2
15°	970.5	947.2	925.7	905.2	888.4	870.6	863.6	855.2	846.8	839.8	838.4
17.5°	938.3	910.3	889.3	869.2	848.7	835.6	826.3	820.7	814.1	810.4	803.9
20°	899.6	876.7	853.3	834.7	816.9	805.7	793.1	788.0	783.3	774.5	771.7
22.5°	866.9	839.3	819.7	801.1	785.2	769.3	760.5	755.3	748.3	743.6	739.9
25°	832.8	809.9	785.2	766.5	753.0	737.1	731.0	724.5	718.4	714.2	710.5
27.5°	799.7	774.5	754.4	735.7	721.7	710.5	702.1	695.1	690.9	687.6	685.3
30°	765.1	741.8	723.1	705.8	690.0	680.6	672.7	669.9	665.2	662.9	659.2
32.5°	733.8	710.0	692.3	677.4	663.4	654.0	649.3	645.1	640.5	636.3	635.8
35°	698.4	677.8	661.5	645.1	634.9	627.4	622.3	618.1	614.3	611.1	609.2
37.5°	667.1	647.5	629.3	617.6	606.4	599.9	594.3	592.9	589.1	589.6	586.8
40°	633.5	615.7	600.3	588.7	581.2	574.2	570.5	565.8	563.5	563.9	561.6
42.5°	600.8	584.5	570.5	559.7	551.8	546.6	543.4	539.6	536.8	535.0	534.5
45°	567.7	553.2	541.5	530.8	524.2	519.6	515.4	510.7	508.4	507.4	507.0
47.5°	535.0	521.9	509.3	501.8	495.8	491.6	487.4	483.6	481.8	480.4	478.0
50°	501.4	488.3	479.4	470.1	465.0	459.4	454.7	452.8	450.5	450.0	452.3
52.5°	466.4	456.1	448.1	440.7	434.6	428.5	423.9	421.5	422.9	422.9	425.7
55°	433.2	422.5	415.0	408.9	402.4	396.8	392.1	392.1	392.1	394.9	398.7
57.5°	396.3	387.0	381.4	374.4	368.3	364.6	361.3	360.9	362.7	367.4	371.6
60°	359.0	352.5	346.4	340.8	334.7	331.9	331.4	330.5	333.3	338.0	346.8
62.5°	322.1	317.9	310.4	307.6	302.5	299.2	299.2	300.2	304.4	311.8	319.8
65°	286.6	280.6	275.0	272.2	268.9	266.1	266.1	269.8	275.9	282.9	292.7
67.5°	250.2	245.1	241.3	238.5	234.8	233.4	234.8	239.0	246.5	253.5	263.8
70°	211.0	210.1	206.8	203.1	201.2	201.2	202.6	207.3	212.9	223.6	232.5
72.5°	175.1	175.1	173.2	170.9	169.5	170.9	171.8	176.5	183.5	192.8	202.6
75°	142.4	141.0	139.6	138.6	138.2	139.1	140.5	144.2	152.7	161.5	169.5
77.5°	110.2	109.2	107.8	108.8	108.8	109.2	113.4	117.6	122.3	129.3	137.7
80°	79.4	79.8	78.4	78.0	80.3	81.2	84.5	87.8	91.0	99.0	105.0
82.5°	52.3	53.2	52.8	53.7	54.6	54.6	58.4	61.6	64.4	70.0	74.7
85°	29.9	30.3	30.3	31.7	32.7	32.2	35.5	37.3	38.7	42.9	45.7
87.5°	13.1	13.5	14.0	14.0	14.0	15.9	16.3	17.3	17.7	18.7	20.1
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: P243672

CATALOG NUMBER: S125DR-H850D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1151.2	1151.2	1151.2	1151.2
2.5°	1087.2	1086.8	1089.1	1090.5
5°	1023.7	1022.3	1020.5	1021.4
7.5°	967.3	963.5	962.6	962.6
10°	917.3	913.6	912.6	911.2
12.5°	874.8	869.2	866.9	864.6
15°	834.7	833.7	828.6	823.5
17.5°	797.8	799.2	794.1	791.7
20°	767.0	762.8	760.9	760.0
22.5°	735.7	732.4	732.4	729.2
25°	707.7	704.9	705.4	702.1
27.5°	681.6	681.1	680.6	679.7
30°	657.3	655.4	653.5	654.5
32.5°	633.9	631.1	629.7	629.3
35°	609.7	608.7	606.9	605.9
37.5°	585.9	586.3	584.0	583.5
40°	560.2	559.7	559.3	558.3
42.5°	533.1	531.7	532.6	532.2
45°	506.0	504.6	505.6	504.2
47.5°	479.4	480.4	480.4	480.8
50°	453.3	455.2	455.2	456.6
52.5°	429.0	432.7	432.7	432.3
55°	402.9	407.1	408.5	408.9
57.5°	378.1	382.3	386.5	387.5
60°	351.5	359.0	363.2	364.1
62.5°	327.7	334.7	340.3	340.8
65°	301.1	309.5	314.6	316.5
67.5°	274.0	280.6	287.6	290.4
70°	243.2	251.1	255.8	257.7
72.5°	211.0	219.9	225.9	226.9
75°	180.2	186.7	191.4	192.3
77.5°	145.2	151.7	155.9	156.9
80°	110.2	115.8	118.6	120.4
82.5°	78.0	81.7	83.1	85.0
85°	48.1	50.9	51.4	51.4
87.5°	21.0	21.5	21.5	22.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)