

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: P242817

Luminaire Tested: **S125DR-S850D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242817
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-S850D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3356.9 lumens
Efficiency: N/A
Efficacy: 127.2 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

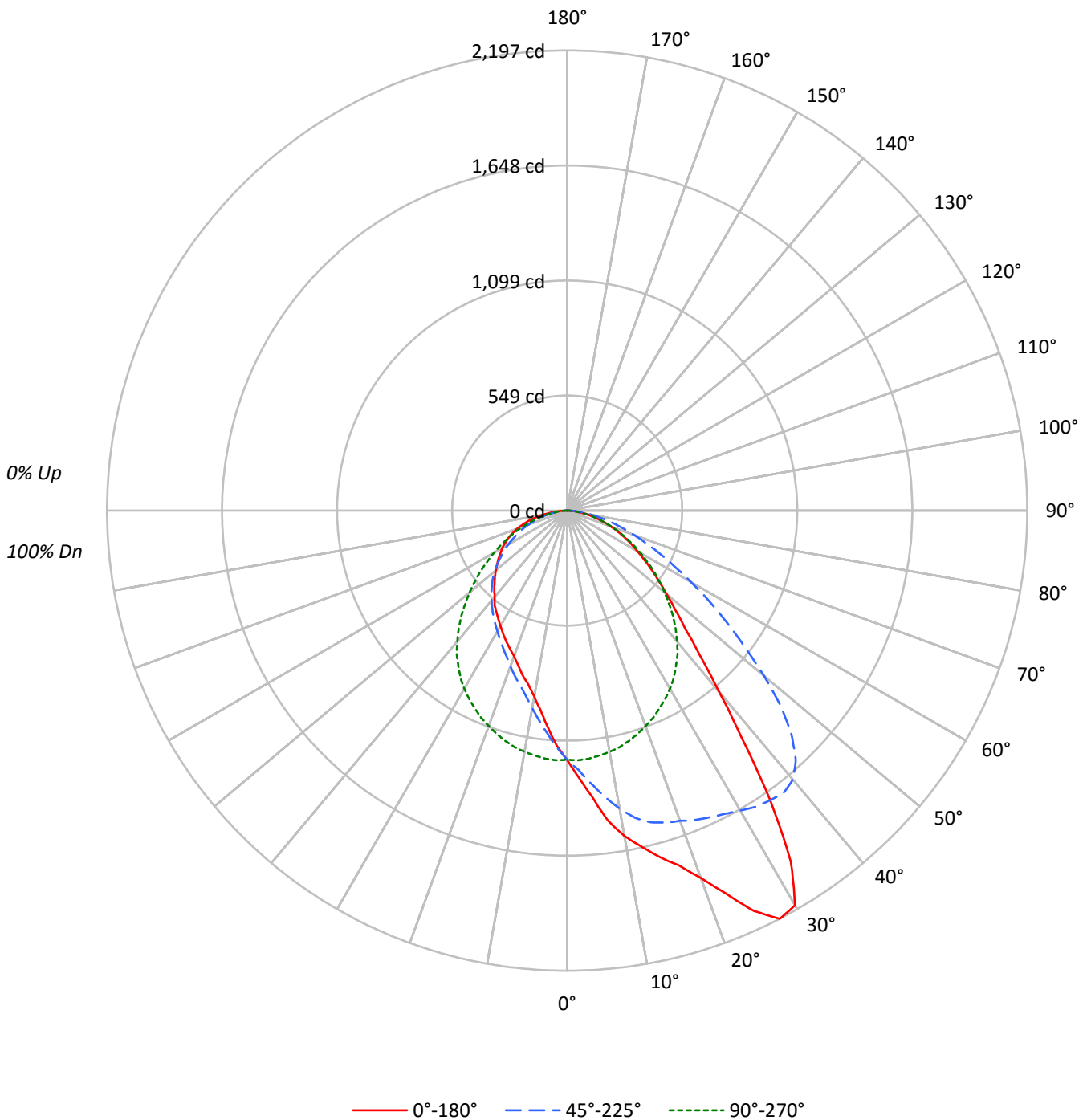
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8455	8455	8455
5°	9791	8484	7428
10°	11391	8440	6508
15°	12610	8378	6003
20°	14114	8279	5598
25°	16535	8168	5401
30°	17860	8059	5229
35°	14685	7855	5117
40°	10437	7570	4993
45°	8019	7187	4923
50°	6844	6711	4913
55°	6094	6244	4955
60°	5498	5734	5082
65°	5077	5222	5213
70°	4617	4690	5289
75°	4075	4133	5242
80°	3430	3369	4793
85°	2716	2430	3874



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.5	3.4
10°-20°	341.0	10.2
20°-30°	554.0	16.5
30°-40°	677.0	20.2
40°-50°	614.2	18.3
50°-60°	489.2	14.6
60°-70°	340.7	10.1
70°-80°	181.5	5.4
80°-90°	45.0	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°	1009.5	30.1
0°-40°	1686.4	50.2
0°-60°	2789.7	83.1
0°-90°	3356.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3356.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1190	1190	1190	1190	1190	
5°	1372	1307	1189	1069	1041	138
15°	1714	1540	1139	863	816	490
25°	2108	1615	1042	724	689	966
35°	1692	1689	905	614	590	1038
45°	798	1515	715	507	490	635
55°	492	928	504	387	400	442
65°	302	492	310	261	310	300
75°	148	219	150	137	191	160
85°	33	44	30	32	48	39
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°	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6
2.5°	1275.4	1273.4	1271.4	1267.3	1270.4	1261.8	1257.7	1250.7	1242.1	1239.0	1235.5
5°	1372.3	1374.9	1377.4	1366.8	1367.8	1360.7	1344.6	1331.4	1320.8	1307.2	1297.6
7.5°	1492.5	1484.9	1485.4	1478.9	1467.3	1457.7	1442.0	1420.3	1400.6	1378.4	1359.2
10°	1578.3	1578.8	1574.3	1566.2	1553.6	1544.5	1522.3	1501.1	1475.3	1445.0	1423.3
12.5°	1643.0	1645.5	1639.4	1627.8	1623.3	1600.1	1583.9	1557.6	1525.8	1503.1	1467.3
15°	1713.7	1708.1	1704.1	1690.4	1679.8	1658.6	1630.9	1604.6	1571.3	1540.5	1509.7
17.5°	1776.3	1780.8	1774.2	1764.2	1732.8	1708.1	1673.8	1640.4	1600.6	1562.2	1526.3
20°	1866.1	1870.2	1858.6	1836.9	1797.5	1772.7	1723.8	1677.3	1629.3	1576.3	1535.9
22.5°	1978.2	1973.2	1956.5	1920.7	1887.9	1836.9	1782.8	1723.8	1660.6	1599.0	1542.0
25°	2108.5	2087.3	2077.7	2036.8	1991.9	1924.7	1852.0	1769.2	1694.5	1615.2	1546.5
27.5°	2197.4	2188.8	2175.1	2141.8	2090.3	2014.1	1928.2	1829.3	1728.8	1631.9	1545.5
30°	2176.2	2177.2	2178.2	2169.1	2138.8	2084.8	1999.4	1890.9	1765.7	1653.1	1549.1
32.5°	1988.3	2011.1	2032.8	2061.0	2079.2	2079.7	2034.3	1938.8	1809.1	1677.3	1547.0
35°	1692.5	1698.0	1755.1	1811.6	1888.4	1947.9	1987.8	1944.4	1835.8	1688.9	1545.5
37.5°	1368.3	1396.1	1439.0	1502.6	1617.7	1711.6	1834.8	1877.3	1826.3	1698.5	1545.0
40°	1124.9	1150.2	1175.9	1241.1	1334.5	1454.6	1599.6	1723.3	1752.0	1677.3	1529.9
42.5°	937.1	955.8	985.1	1030.0	1104.2	1207.2	1344.1	1515.2	1632.4	1615.7	1498.1
45°	797.8	810.4	832.6	871.5	928.0	1011.3	1133.5	1310.2	1464.2	1515.2	1444.0
47.5°	698.8	699.3	717.5	745.2	788.2	864.9	956.3	1101.7	1267.8	1385.5	1368.8
50°	619.0	616.5	630.1	653.4	685.7	732.6	819.0	929.5	1087.6	1225.4	1263.8
52.5°	550.4	551.4	558.4	574.1	599.8	638.2	697.3	794.2	923.5	1065.9	1146.6
55°	491.8	489.8	499.4	511.0	530.7	556.9	603.4	679.6	789.2	928.5	1022.4
57.5°	435.2	440.8	444.8	452.9	470.1	488.2	529.6	588.2	678.6	802.3	901.8
60°	386.8	392.3	395.3	403.4	416.5	431.7	462.0	507.4	580.6	683.6	782.1
62.5°	343.3	347.4	347.9	355.0	365.0	379.7	401.9	438.3	492.3	579.1	675.1
65°	301.9	301.9	304.0	311.5	316.6	329.7	347.9	375.7	422.1	492.3	574.6
67.5°	261.5	264.1	263.6	267.1	271.6	282.7	296.4	319.6	356.5	409.5	477.6
70°	222.2	224.2	223.7	226.2	231.2	237.8	248.4	270.1	294.9	338.8	395.3
72.5°	186.8	187.3	185.8	189.3	191.9	197.4	209.5	218.6	241.3	276.7	320.6
75°	148.4	149.5	150.5	152.5	155.5	158.5	164.6	176.2	191.4	219.1	248.9
77.5°	118.1	115.6	118.7	118.1	119.7	122.2	127.7	134.3	147.4	166.1	190.9
80°	83.8	84.3	84.3	84.8	87.3	88.9	93.4	98.0	107.5	120.7	136.8
82.5°	55.5	57.1	56.0	57.1	59.1	60.1	62.1	65.6	70.2	79.8	90.4
85°	33.3	30.8	31.8	32.8	32.8	33.3	35.3	36.9	39.9	43.9	48.5
87.5°	12.1	13.1	13.6	13.6	14.1	14.1	16.2	16.2	17.7	19.2	21.2
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°	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6
2.5°	1232.5	1228.9	1224.9	1217.8	1209.3	1204.7	1197.6	1193.1	1184.0	1176.4	1168.4
5°	1286.0	1272.9	1260.8	1245.1	1227.9	1216.8	1203.7	1189.1	1173.9	1158.3	1141.1
7.5°	1339.5	1317.8	1294.1	1269.3	1245.1	1222.4	1201.2	1179.5	1159.8	1135.0	1114.3
10°	1393.5	1364.3	1333.0	1296.1	1260.3	1228.9	1197.1	1169.4	1141.1	1110.8	1084.0
12.5°	1447.6	1406.2	1358.7	1317.3	1272.4	1233.0	1194.1	1156.7	1119.4	1085.0	1052.7
15°	1467.3	1432.9	1392.0	1334.5	1286.0	1234.0	1184.5	1138.6	1095.7	1058.3	1018.9
17.5°	1486.5	1442.5	1399.1	1343.6	1280.4	1224.4	1168.4	1118.4	1070.9	1024.0	988.1
20°	1491.0	1445.6	1399.6	1345.6	1280.4	1213.8	1157.8	1094.6	1042.6	993.7	947.2
22.5°	1489.5	1436.5	1385.5	1329.4	1266.3	1206.2	1135.5	1070.9	1013.4	965.4	916.4
25°	1478.4	1423.3	1360.7	1304.7	1242.1	1176.9	1108.3	1041.6	984.1	929.0	881.1
27.5°	1471.8	1402.1	1333.5	1268.8	1208.8	1148.7	1082.0	1013.4	950.2	894.2	849.8
30°	1457.2	1378.9	1299.1	1231.0	1168.9	1110.8	1048.7	982.0	915.4	860.9	812.4
32.5°	1444.0	1349.6	1264.3	1188.6	1121.9	1065.9	1009.8	947.2	882.1	826.5	778.1
35°	1426.4	1320.8	1224.4	1140.6	1070.4	1012.3	964.4	905.3	845.2	791.7	745.2
37.5°	1405.7	1283.5	1181.5	1094.1	1017.9	957.3	911.9	865.9	805.8	753.3	711.9
40°	1380.4	1243.1	1133.5	1043.6	963.9	900.3	858.8	815.9	768.0	720.0	675.6
42.5°	1348.6	1206.7	1085.0	986.6	907.8	846.2	802.3	767.5	726.6	682.6	642.2
45°	1308.2	1161.3	1032.0	928.0	848.2	787.2	742.2	715.0	683.1	640.7	605.9
47.5°	1254.7	1109.8	976.5	868.9	786.6	730.1	687.2	660.4	637.2	603.9	571.1
50°	1178.5	1050.7	915.4	808.9	726.6	669.5	630.6	606.9	587.7	563.5	536.7
52.5°	1093.1	976.5	855.3	750.3	669.0	613.0	575.1	554.9	539.7	524.1	497.8
55°	1001.7	900.8	785.6	685.7	610.4	555.4	522.1	503.9	490.8	477.6	461.5
57.5°	903.3	821.5	716.0	622.6	552.9	501.4	470.1	451.4	440.8	433.7	423.6
60°	798.3	730.6	642.7	559.4	491.8	447.3	417.1	403.4	394.8	389.3	382.2
62.5°	700.8	648.3	568.5	494.3	437.3	395.8	369.6	356.5	348.4	346.4	340.8
65°	605.4	562.5	495.3	432.2	381.7	345.9	323.1	310.5	305.5	302.4	302.9
67.5°	509.5	481.7	425.6	370.1	328.7	296.9	278.2	268.6	266.1	261.5	261.5
70°	423.1	403.4	358.0	311.0	275.2	251.9	235.8	225.7	223.2	221.2	220.6
72.5°	346.9	330.2	292.3	257.0	225.7	206.0	193.4	188.3	183.8	182.8	182.8
75°	272.1	262.6	231.2	201.5	179.2	165.1	156.0	150.5	147.4	146.9	147.4
77.5°	205.5	196.4	174.7	152.5	137.8	126.7	118.1	116.6	112.6	113.1	112.1
80°	145.4	139.9	127.2	110.6	99.0	89.9	85.8	82.3	81.3	79.8	81.3
82.5°	95.4	89.4	81.8	72.7	63.6	59.1	55.0	54.5	54.0	53.5	53.5
85°	52.0	52.5	47.5	39.4	35.3	32.3	29.8	29.8	29.3	28.8	29.3
87.5°	22.2	21.2	19.2	17.7	15.1	13.6	13.1	13.6	12.1	11.6	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°	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6	1189.6
2.5°	1163.8	1158.3	1153.7	1143.6	1138.1	1130.5	1124.4	1131.0	1123.9	1127.0	1122.4
5°	1132.5	1118.4	1108.3	1093.6	1081.0	1069.4	1060.8	1059.3	1055.3	1053.2	1047.2
7.5°	1095.1	1079.0	1062.3	1044.2	1029.0	1012.8	1003.3	994.2	988.6	981.5	976.0
10°	1062.8	1039.1	1018.9	995.7	975.5	957.8	943.7	936.6	930.0	920.4	916.9
12.5°	1022.9	998.2	972.5	947.2	928.0	907.8	896.2	884.6	880.6	869.5	868.9
15°	992.7	955.8	931.6	906.3	879.6	863.4	853.3	841.7	836.6	829.1	823.5
17.5°	955.3	922.0	891.7	865.9	841.7	828.6	815.4	807.3	798.8	793.2	784.1
20°	913.9	882.6	852.3	824.5	806.8	791.2	781.1	773.5	764.4	761.9	752.8
22.5°	879.0	843.7	814.9	792.7	773.0	754.8	743.7	739.2	733.6	724.5	724.5
25°	840.7	804.8	780.1	756.9	739.7	723.5	716.0	709.4	703.3	697.8	695.8
27.5°	808.4	776.5	746.3	725.0	710.4	695.3	688.7	680.1	675.6	671.0	665.0
30°	774.0	741.2	715.5	695.3	679.1	666.0	658.9	653.4	649.3	645.3	642.2
32.5°	738.7	708.9	684.2	664.5	648.3	639.2	633.2	629.6	625.1	620.0	616.0
35°	708.4	675.1	650.8	633.7	621.0	613.5	606.4	602.9	597.8	597.8	593.8
37.5°	672.5	643.3	621.5	605.9	594.8	587.7	579.6	577.6	574.1	572.1	570.5
40°	641.2	614.5	594.3	578.6	566.5	561.0	554.9	550.9	548.8	546.3	545.3
42.5°	608.9	583.7	564.5	550.4	540.3	535.7	530.2	527.6	523.1	519.6	519.0
45°	576.1	551.4	533.7	522.1	513.0	507.4	503.9	497.8	495.8	491.8	491.3
47.5°	545.8	521.6	503.9	494.3	486.2	482.2	476.6	470.1	467.5	465.0	464.5
50°	511.0	489.3	473.1	464.0	456.4	449.9	444.3	440.3	438.8	438.8	439.8
52.5°	475.6	458.0	444.8	433.2	426.1	419.1	414.0	412.0	409.5	412.5	414.5
55°	441.3	422.6	412.5	401.9	394.8	386.8	384.2	383.2	381.7	385.8	387.8
57.5°	404.4	391.8	379.7	368.6	362.5	357.5	353.4	352.9	356.0	357.0	363.0
60°	369.6	354.4	343.8	335.8	328.2	325.2	324.2	323.1	325.2	330.7	339.3
62.5°	331.2	319.6	308.0	302.4	297.4	291.8	291.8	292.8	297.4	304.0	312.5
65°	293.9	283.3	275.7	268.6	264.1	261.0	262.0	264.1	268.6	277.2	286.8
67.5°	255.5	248.4	241.3	234.8	230.2	230.7	231.2	233.8	239.3	249.4	258.5
70°	218.6	210.5	205.0	202.5	198.9	196.9	199.9	205.0	209.5	218.6	226.2
72.5°	181.8	175.2	171.2	169.6	168.6	167.1	167.6	173.2	179.7	188.8	197.9
75°	145.4	142.9	139.9	137.8	136.3	137.3	138.3	143.4	148.4	158.0	168.1
77.5°	112.6	109.6	107.5	107.0	106.0	106.5	109.1	113.1	118.1	125.2	133.3
80°	80.3	79.3	78.3	77.8	77.8	78.3	82.3	84.8	89.4	95.9	102.0
82.5°	53.0	52.5	52.5	52.5	53.0	53.0	55.0	58.6	62.1	66.6	71.7
85°	30.8	29.8	31.3	31.8	30.8	32.3	33.3	35.3	36.9	39.4	41.9
87.5°	12.6	13.6	13.1	13.6	13.6	14.6	14.1	16.2	17.2	18.2	17.7
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: P242817

CATALOG NUMBER: S125DR-S850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1189.6	1189.6	1189.6	1189.6
2.5°	1119.4	1122.9	1119.9	1123.9
5°	1044.7	1040.1	1043.1	1041.1
7.5°	975.5	971.4	965.4	963.4
10°	911.4	905.8	905.3	901.8
12.5°	864.4	859.4	852.3	851.3
15°	820.5	816.4	812.9	815.9
17.5°	783.1	779.6	778.6	775.5
20°	748.3	745.8	746.8	740.2
22.5°	720.5	715.0	713.9	713.9
25°	691.2	688.7	686.2	688.7
27.5°	665.5	662.9	661.9	662.4
30°	642.2	637.2	637.7	637.2
32.5°	617.0	614.0	613.0	611.9
35°	592.3	592.3	589.7	589.7
37.5°	569.5	569.0	567.5	568.5
40°	543.3	542.8	541.3	538.2
42.5°	518.0	516.0	515.5	515.0
45°	491.3	491.3	490.3	489.8
47.5°	465.0	466.0	468.1	467.5
50°	441.8	442.3	443.8	444.3
52.5°	416.0	419.6	421.6	421.1
55°	392.3	395.8	399.4	399.9
57.5°	368.6	373.1	376.7	377.7
60°	344.3	350.9	355.5	357.5
62.5°	321.1	328.7	333.2	333.2
65°	295.4	302.9	307.0	310.0
67.5°	268.6	276.2	280.2	282.7
70°	238.8	246.4	252.5	254.5
72.5°	209.5	216.1	220.6	223.2
75°	174.7	183.8	188.3	190.9
77.5°	141.4	150.5	153.0	154.5
80°	108.1	113.1	116.6	117.1
82.5°	76.7	80.8	81.3	82.8
85°	45.4	47.5	48.0	47.5
87.5°	18.7	18.2	18.2	19.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)