

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: P242833

Luminaire Tested: **S125DR-S1090D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242833
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-S1090D940-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3780.1 lumens
Efficiency: N/A
Efficacy: 108.6 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

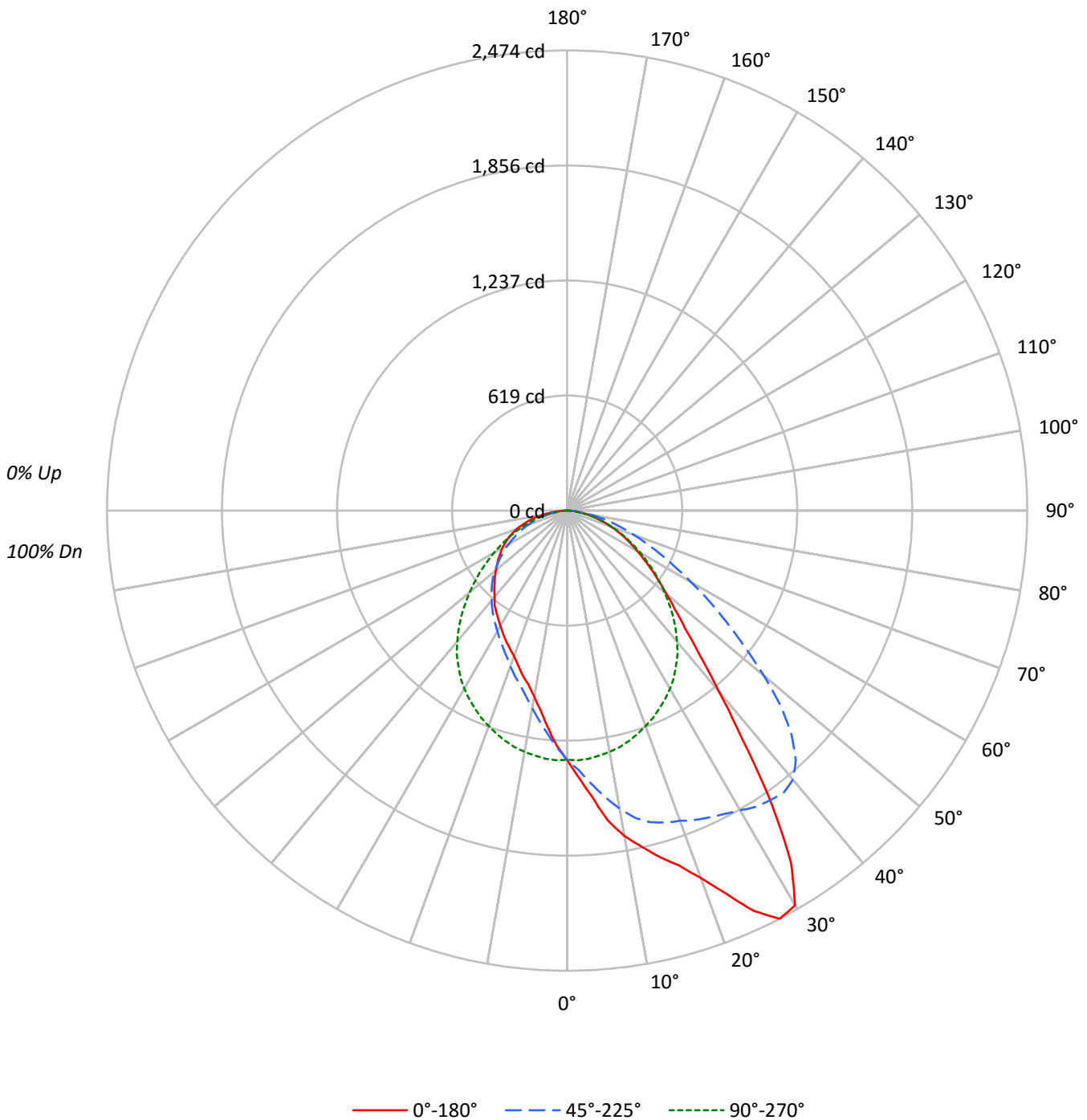
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9520	9520	9520
5°	11025	9552	8364
10°	12827	9503	7328
15°	14199	9434	6761
20°	15894	9323	6304
25°	18619	9198	6082
30°	20110	9075	5888
35°	16536	8845	5762
40°	11752	8525	5623
45°	9029	8092	5543
50°	7707	7556	5532
55°	6862	7031	5580
60°	6190	6458	5721
65°	5718	5881	5871
70°	5199	5280	5954
75°	4591	4652	5901
80°	3864	3794	5399
85°	3058	2732	4355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	3.4
10°-20°	384.0	10.2
20°-30°	623.8	16.5
30°-40°	762.3	20.2
40°-50°	691.6	18.3
50°-60°	550.8	14.6
60°-70°	383.7	10.1
70°-80°	204.4	5.4
80°-90°	50.7	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°	1136.7	30.1
0°-40°	1899.0	50.2
0°-60°	3141.4	83.1
0°-90°	3780.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3780.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1340	1340	1340	1340	1340	
5°	1545	1472	1339	1204	1172	155
15°	1930	1735	1282	972	919	552
25°	2374	1819	1173	815	776	1088
35°	1906	1902	1019	691	664	1169
45°	898	1706	805	571	552	715
55°	554	1046	567	436	450	498
65°	340	554	350	294	349	337
75°	167	247	169	155	215	180
85°	38	50	34	36	53	44
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°	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5
2.5°	1436.2	1433.9	1431.6	1427.1	1430.5	1420.8	1416.3	1408.3	1398.6	1395.2	1391.2
5°	1545.3	1548.2	1551.0	1539.1	1540.2	1532.2	1514.0	1499.3	1487.3	1472.0	1461.2
7.5°	1680.6	1672.1	1672.7	1665.3	1652.2	1641.4	1623.8	1599.3	1577.2	1552.1	1530.5
10°	1777.3	1777.9	1772.7	1763.6	1749.4	1739.2	1714.2	1690.3	1661.3	1627.2	1602.7
12.5°	1850.1	1852.9	1846.1	1833.0	1827.9	1801.7	1783.5	1754.0	1718.2	1692.6	1652.2
15°	1929.7	1923.4	1918.9	1903.5	1891.6	1867.7	1836.4	1806.8	1769.3	1734.6	1700.0
17.5°	2000.2	2005.3	1997.9	1986.5	1951.3	1923.4	1884.7	1847.2	1802.3	1759.1	1718.7
20°	2101.4	2105.9	2092.8	2068.4	2024.0	1996.2	1941.0	1888.7	1834.7	1775.0	1729.5
22.5°	2227.6	2221.9	2203.1	2162.8	2125.8	2068.4	2007.5	1941.0	1870.0	1800.6	1736.3
25°	2374.3	2350.4	2339.6	2293.5	2242.9	2167.3	2085.4	1992.2	1908.0	1818.8	1741.5
27.5°	2474.3	2464.7	2449.3	2411.8	2353.8	2267.9	2171.3	2059.9	1946.7	1837.5	1740.3
30°	2450.4	2451.6	2452.7	2442.5	2408.4	2347.5	2251.5	2129.2	1988.2	1861.4	1744.3
32.5°	2238.9	2264.5	2289.0	2320.8	2341.3	2341.9	2290.7	2183.2	2037.1	1888.7	1742.0
35°	1905.8	1912.0	1976.3	2040.0	2126.4	2193.5	2238.4	2189.5	2067.2	1901.8	1740.3
37.5°	1540.8	1572.0	1620.4	1692.0	1821.6	1927.4	2066.1	2113.9	2056.4	1912.6	1739.8
40°	1266.7	1295.2	1324.2	1397.5	1502.7	1638.0	1801.2	1940.5	1972.9	1888.7	1722.7
42.5°	1055.2	1076.3	1109.2	1159.8	1243.4	1359.4	1513.5	1706.2	1838.1	1819.4	1686.9
45°	898.3	912.5	937.5	981.3	1045.0	1138.8	1276.4	1475.4	1648.8	1706.2	1626.0
47.5°	786.9	787.4	807.9	839.2	887.5	973.9	1076.8	1240.6	1427.6	1560.1	1541.3
50°	697.0	694.2	709.5	735.7	772.1	825.0	922.2	1046.7	1224.7	1379.9	1423.1
52.5°	619.7	620.9	628.8	646.4	675.4	718.6	785.2	894.3	1039.9	1200.2	1291.2
55°	553.8	551.5	562.3	575.4	597.5	627.1	679.4	765.3	888.6	1045.6	1151.3
57.5°	490.1	496.3	500.9	510.0	529.3	549.8	596.4	662.4	764.1	903.4	1015.4
60°	435.5	441.8	445.2	454.3	469.1	486.1	520.2	571.4	653.8	769.8	880.7
62.5°	386.6	391.2	391.7	399.7	411.1	427.5	452.6	493.5	554.3	652.1	760.1
65°	340.0	340.0	342.3	350.8	356.5	371.3	391.7	423.0	475.3	554.3	647.0
67.5°	294.5	297.4	296.8	300.8	305.9	318.4	333.7	359.9	401.4	461.1	537.8
70°	250.2	252.4	251.9	254.7	260.4	267.8	279.7	304.2	332.0	381.5	445.2
72.5°	210.4	210.9	209.2	213.2	216.0	222.3	235.9	246.2	271.8	311.6	361.0
75°	167.2	168.3	169.4	171.7	175.1	178.5	185.3	198.4	215.5	246.8	280.3
77.5°	133.0	130.2	133.6	133.0	134.7	137.6	143.8	151.2	166.0	187.1	214.9
80°	94.4	94.9	94.9	95.5	98.4	100.1	105.2	110.3	121.1	135.9	154.1
82.5°	62.5	64.2	63.1	64.2	66.5	67.7	69.9	73.9	79.0	89.8	101.8
85°	37.5	34.7	35.8	37.0	37.0	37.5	39.8	41.5	44.9	49.5	54.6
87.5°	13.6	14.8	15.4	15.4	15.9	15.9	18.2	18.2	19.9	21.6	23.9
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°	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5
2.5°	1387.8	1383.8	1379.3	1371.3	1361.7	1356.6	1348.6	1343.5	1333.2	1324.7	1315.6
5°	1448.1	1433.3	1419.7	1402.0	1382.7	1370.2	1355.4	1338.9	1321.9	1304.3	1284.9
7.5°	1508.4	1483.9	1457.2	1429.3	1402.0	1376.5	1352.6	1328.1	1306.0	1278.1	1254.8
10°	1569.2	1536.2	1501.0	1459.5	1419.1	1383.8	1348.0	1316.8	1284.9	1250.8	1220.7
12.5°	1630.0	1583.4	1530.0	1483.3	1432.7	1388.4	1344.6	1302.5	1260.5	1221.8	1185.4
15°	1652.2	1613.5	1567.5	1502.7	1448.1	1389.5	1333.8	1282.1	1233.8	1191.7	1147.3
17.5°	1673.8	1624.3	1575.4	1512.9	1441.8	1378.7	1315.6	1259.3	1205.9	1153.0	1112.6
20°	1678.9	1627.8	1576.0	1515.2	1441.8	1366.8	1303.7	1232.6	1174.1	1118.9	1066.6
22.5°	1677.2	1617.5	1560.1	1497.0	1425.9	1358.3	1278.7	1205.9	1141.1	1087.1	1031.9
25°	1664.7	1602.7	1532.2	1469.1	1398.6	1325.3	1248.0	1172.9	1108.1	1046.1	992.1
27.5°	1657.3	1578.9	1501.5	1428.8	1361.1	1293.4	1218.4	1141.1	1070.0	1006.9	956.9
30°	1640.8	1552.7	1462.9	1386.1	1316.2	1250.8	1180.9	1105.8	1030.8	969.4	914.8
32.5°	1626.0	1519.7	1423.6	1338.4	1263.3	1200.2	1137.1	1066.6	993.3	930.7	876.1
35°	1606.2	1487.3	1378.7	1284.4	1205.3	1139.9	1085.9	1019.4	951.8	891.5	839.2
37.5°	1582.8	1445.3	1330.4	1232.0	1146.2	1078.0	1026.8	975.1	907.4	848.3	801.7
40°	1554.4	1399.8	1276.4	1175.2	1085.4	1013.7	967.1	918.8	864.8	810.8	760.7
42.5°	1518.6	1358.8	1221.8	1110.9	1022.3	952.9	903.4	864.2	818.1	768.7	723.2
45°	1473.1	1307.7	1162.1	1045.0	955.2	886.4	835.8	805.1	769.2	721.5	682.3
47.5°	1412.8	1249.7	1099.6	978.5	885.8	822.1	773.8	743.7	717.5	680.0	643.0
50°	1327.0	1183.1	1030.8	910.8	818.1	753.9	710.1	683.4	661.8	634.5	604.4
52.5°	1230.9	1099.6	963.1	844.9	753.3	690.2	647.6	624.8	607.8	590.2	560.6
55°	1128.0	1014.3	884.7	772.1	687.4	625.4	587.9	567.4	552.6	537.8	519.7
57.5°	1017.1	925.0	806.2	701.0	622.6	564.6	529.3	508.3	496.3	488.4	477.0
60°	898.9	822.7	723.8	630.0	553.8	503.7	469.6	454.3	444.6	438.4	430.4
62.5°	789.1	730.0	640.2	556.6	492.4	445.7	416.2	401.4	392.3	390.0	383.8
65°	681.7	633.4	557.7	486.7	429.8	389.5	363.9	349.7	344.0	340.6	341.1
67.5°	573.7	542.4	479.3	416.7	370.1	334.3	313.3	302.5	299.6	294.5	294.5
70°	476.4	454.3	403.1	350.2	309.9	283.7	265.5	254.1	251.3	249.0	248.5
72.5°	390.6	371.8	329.2	289.4	254.1	232.0	217.8	212.1	207.0	205.8	205.8
75°	306.4	295.6	260.4	226.9	201.8	185.9	175.7	169.4	166.0	165.4	166.0
77.5°	231.4	221.2	196.7	171.7	155.2	142.7	133.0	131.3	126.8	127.4	126.2
80°	163.7	157.5	143.3	124.5	111.4	101.2	96.7	92.7	91.5	89.8	91.5
82.5°	107.5	100.6	92.1	81.9	71.6	66.5	62.0	61.4	60.8	60.3	60.3
85°	58.6	59.1	53.4	44.3	39.8	36.4	33.5	33.5	33.0	32.4	33.0
87.5°	25.0	23.9	21.6	19.9	17.1	15.4	14.8	15.4	13.6	13.1	13.6
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°	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5	1339.5
2.5°	1310.5	1304.3	1299.1	1287.8	1281.5	1273.0	1266.2	1273.5	1265.6	1269.0	1263.9
5°	1275.3	1259.3	1248.0	1231.5	1217.3	1204.2	1194.5	1192.8	1188.3	1186.0	1179.2
7.5°	1233.2	1215.0	1196.2	1175.8	1158.7	1140.5	1129.7	1119.5	1113.2	1105.3	1099.0
10°	1196.8	1170.1	1147.3	1121.2	1098.4	1078.5	1062.6	1054.7	1047.3	1036.5	1032.5
12.5°	1151.9	1124.0	1095.0	1066.6	1045.0	1022.3	1009.2	996.1	991.5	979.0	978.5
15°	1117.8	1076.3	1049.0	1020.5	990.4	972.2	960.8	947.8	942.1	933.6	927.3
17.5°	1075.7	1038.2	1004.1	975.1	947.8	933.0	918.2	909.1	899.4	893.2	883.0
20°	1029.1	993.8	959.7	928.4	908.5	890.9	879.5	871.0	860.8	857.9	847.7
22.5°	989.8	950.0	917.6	892.6	870.4	850.0	837.5	832.4	826.1	815.9	815.9
25°	946.6	906.3	878.4	852.3	832.9	814.7	806.2	798.8	792.0	785.7	783.5
27.5°	910.2	874.4	840.3	816.4	799.9	782.9	775.5	765.8	760.7	755.6	748.8
30°	871.6	834.6	805.6	782.9	764.7	749.9	742.0	735.7	731.2	726.6	723.2
32.5°	831.8	798.2	770.4	748.2	730.0	719.8	713.0	709.0	703.9	698.2	693.6
35°	797.7	760.1	732.9	713.5	699.3	690.8	682.8	678.8	673.2	673.2	668.6
37.5°	757.3	724.3	699.9	682.3	669.8	661.8	652.7	650.4	646.4	644.2	642.5
40°	722.1	691.9	669.2	651.6	637.9	631.7	624.8	620.3	618.0	615.2	614.0
42.5°	685.7	657.2	635.6	619.7	608.3	603.2	597.0	594.1	589.0	585.0	584.5
45°	648.7	620.9	601.0	587.9	577.6	571.4	567.4	560.6	558.3	553.8	553.2
47.5°	614.6	587.3	567.4	556.6	547.5	543.0	536.7	529.3	526.5	523.6	523.1
50°	575.4	550.9	532.7	522.5	514.0	506.6	500.3	495.8	494.1	494.1	495.2
52.5°	535.6	515.7	500.9	487.8	479.9	471.9	466.2	463.9	461.1	464.5	466.8
55°	496.9	475.9	464.5	452.6	444.6	435.5	432.7	431.5	429.8	434.4	436.6
57.5°	455.4	441.2	427.5	415.0	408.2	402.5	398.0	397.4	400.8	402.0	408.8
60°	416.2	399.1	387.2	378.1	369.6	366.1	365.0	363.9	366.1	372.4	382.1
62.5°	373.0	359.9	346.8	340.6	334.9	328.6	328.6	329.8	334.9	342.3	351.9
65°	330.9	319.0	310.4	302.5	297.4	293.9	295.1	297.4	302.5	312.1	322.9
67.5°	287.7	279.7	271.8	264.4	259.3	259.8	260.4	263.2	269.5	280.9	291.1
70°	246.2	237.1	230.8	228.0	224.0	221.7	225.1	230.8	235.9	246.2	254.7
72.5°	204.7	197.3	192.7	191.0	189.9	188.2	188.8	195.0	202.4	212.6	222.9
75°	163.7	160.9	157.5	155.2	153.5	154.6	155.8	161.5	167.2	178.0	189.3
77.5°	126.8	123.4	121.1	120.5	119.4	120.0	122.8	127.4	133.0	141.0	150.1
80°	90.4	89.3	88.1	87.6	87.6	88.1	92.7	95.5	100.6	108.0	114.8
82.5°	59.7	59.1	59.1	59.1	59.7	59.7	62.0	66.0	69.9	75.0	80.7
85°	34.7	33.5	35.3	35.8	34.7	36.4	37.5	39.8	41.5	44.3	47.2
87.5°	14.2	15.4	14.8	15.4	15.4	16.5	15.9	18.2	19.3	20.5	19.9
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: P242833

CATALOG NUMBER: S125DR-S1090D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1339.5	1339.5	1339.5	1339.5
2.5°	1260.5	1264.5	1261.0	1265.6
5°	1176.3	1171.2	1174.6	1172.3
7.5°	1098.4	1093.9	1087.1	1084.8
10°	1026.2	1020.0	1019.4	1015.4
12.5°	973.4	967.7	959.7	958.6
15°	923.9	919.3	915.4	918.8
17.5°	881.8	877.8	876.7	873.3
20°	842.6	839.7	840.9	833.5
22.5°	811.3	805.1	803.9	803.9
25°	778.3	775.5	772.7	775.5
27.5°	749.3	746.5	745.4	745.9
30°	723.2	717.5	718.1	717.5
32.5°	694.8	691.4	690.2	689.1
35°	666.9	666.9	664.1	664.1
37.5°	641.3	640.8	639.0	640.2
40°	611.8	611.2	609.5	606.1
42.5°	583.3	581.1	580.5	579.9
45°	553.2	553.2	552.1	551.5
47.5°	523.6	524.8	527.0	526.5
50°	497.5	498.0	499.8	500.3
52.5°	468.5	472.5	474.7	474.2
55°	441.8	445.7	449.7	450.3
57.5°	415.0	420.2	424.1	425.3
60°	387.8	395.1	400.3	402.5
62.5°	361.6	370.1	375.2	375.2
65°	332.6	341.1	345.7	349.1
67.5°	302.5	311.0	315.5	318.4
70°	268.9	277.5	284.3	286.5
72.5°	235.9	243.3	248.5	251.3
75°	196.7	207.0	212.1	214.9
77.5°	159.2	169.4	172.3	174.0
80°	121.7	127.4	131.3	131.9
82.5°	86.4	91.0	91.5	93.2
85°	51.2	53.4	54.0	53.4
87.5°	21.0	20.5	20.5	21.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)