

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: P243692

Luminaire Tested: **S125DR-H850D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243692
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-H850D940-X4F0-XX-UDD-A-W
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2925.6 lumens
Efficiency: N/A
Efficacy: 124.0 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

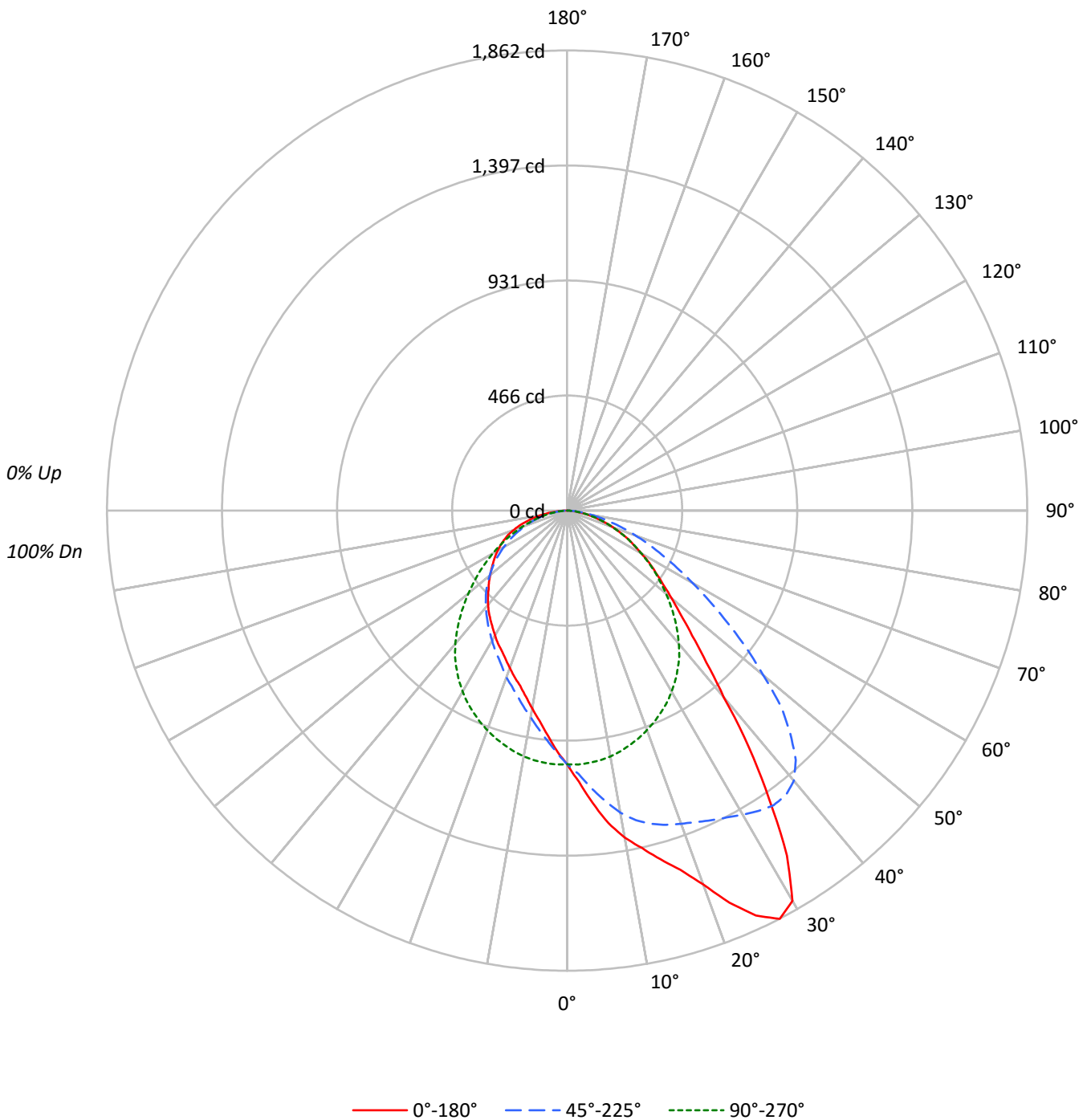
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7296	7296	7296
5°	8476	7312	6498
10°	9697	7288	5865
15°	10751	7223	5403
20°	12172	7150	5126
25°	14174	7058	4910
30°	14964	6942	4790
35°	12374	6772	4688
40°	9154	6527	4620
45°	7197	6171	4519
50°	6094	5772	4501
55°	5426	5375	4519
60°	4923	4935	4616
65°	4564	4522	4746
70°	4100	4048	4775
75°	3498	3556	4710
80°	2861	2914	4396
85°	1965	2071	3735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.1	3.4
10°-20°	296.3	10.1
20°-30°	481.7	16.5
30°-40°	586.1	20.0
40°-50°	536.3	18.3
50°-60°	429.2	14.7
60°-70°	298.9	10.2
70°-80°	158.9	5.4
80°-90°	39.0	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°	877.2	30.0
0°-40°	1463.3	50.0
0°-60°	2428.8	83.0
0°-90°	2925.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2925.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1026	1026	1026	1026	1026	
5°	1188	1128	1025	932	911	118
15°	1461	1312	982	776	734	419
25°	1807	1382	900	657	626	825
35°	1426	1456	780	560	540	884
45°	716	1276	614	463	450	565
55°	438	792	434	354	365	395
65°	271	423	269	237	282	267
75°	127	187	130	124	172	138
85°	24	36	25	29	46	31
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°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1099.0	1094.4	1093.1	1093.5	1091.0	1089.0	1084.0	1077.3	1072.7	1066.9	1065.2
5°	1188.0	1176.8	1178.9	1175.5	1170.1	1163.1	1156.8	1146.8	1137.2	1128.1	1116.0
7.5°	1275.5	1273.4	1267.5	1266.7	1258.0	1245.9	1233.4	1219.7	1199.3	1185.1	1168.9
10°	1343.7	1347.9	1339.6	1340.0	1324.6	1312.5	1301.7	1283.8	1260.9	1241.7	1218.0
12.5°	1398.7	1400.3	1399.1	1393.7	1383.7	1363.3	1352.9	1334.1	1309.2	1282.9	1264.6
15°	1461.1	1456.5	1449.5	1442.8	1428.2	1413.7	1392.0	1369.9	1338.3	1312.1	1285.4
17.5°	1523.5	1522.7	1514.0	1499.8	1481.5	1462.4	1429.9	1401.6	1367.9	1333.3	1300.0
20°	1609.3	1604.7	1591.8	1575.6	1541.9	1514.8	1474.4	1435.7	1391.6	1348.3	1309.6
22.5°	1716.7	1701.7	1688.8	1663.8	1625.1	1578.1	1532.7	1476.5	1414.9	1364.1	1315.8
25°	1807.4	1800.8	1787.0	1759.2	1715.0	1658.4	1591.0	1527.3	1449.9	1382.4	1319.6
27.5°	1862.4	1859.5	1851.2	1824.9	1788.3	1732.1	1660.1	1578.9	1491.1	1399.9	1324.6
30°	1823.3	1823.7	1828.3	1825.3	1809.1	1772.9	1708.8	1627.2	1525.6	1420.7	1325.8
32.5°	1655.1	1666.3	1702.1	1719.2	1742.1	1749.6	1720.9	1653.0	1554.8	1441.5	1330.0
35°	1426.1	1453.6	1477.8	1527.7	1587.2	1635.9	1664.2	1642.2	1566.8	1455.7	1332.1
37.5°	1210.5	1208.4	1245.9	1300.0	1363.3	1446.1	1526.5	1570.6	1546.0	1452.8	1328.3
40°	986.6	1005.7	1029.0	1076.9	1151.0	1253.0	1348.7	1443.2	1477.3	1427.0	1313.7
42.5°	833.4	842.1	865.4	902.9	956.2	1060.2	1154.7	1276.3	1363.7	1369.5	1281.7
45°	716.0	725.6	732.2	769.3	818.8	888.7	985.7	1108.1	1225.5	1276.3	1229.7
47.5°	621.9	627.3	641.9	664.4	696.8	758.9	836.3	947.4	1075.2	1173.9	1158.1
50°	551.1	555.3	567.0	579.4	606.1	651.9	714.3	805.5	928.3	1036.1	1071.5
52.5°	488.7	494.1	499.9	512.0	536.6	567.4	618.2	689.3	803.4	913.7	969.9
55°	437.9	440.0	446.2	455.4	474.1	497.4	537.8	602.3	682.3	792.2	869.6
57.5°	393.8	391.7	398.4	404.6	417.1	436.7	465.8	513.7	589.9	683.5	764.3
60°	346.3	348.4	353.4	358.4	367.1	384.2	407.1	445.4	501.2	585.3	667.7
62.5°	305.5	307.2	308.5	315.5	323.4	335.5	354.2	385.5	431.7	501.2	574.9
65°	271.4	268.5	270.2	275.2	281.4	291.4	308.9	331.8	366.3	422.9	484.1
67.5°	231.4	232.3	232.7	235.6	241.0	250.6	263.1	281.8	310.1	354.7	408.4
70°	197.3	197.7	198.1	200.6	205.2	210.6	219.4	233.9	258.1	292.6	334.7
72.5°	162.3	164.0	164.0	166.1	169.4	172.3	180.7	192.7	211.0	238.5	273.9
75°	127.4	130.3	131.1	133.6	136.5	137.4	143.6	153.2	164.8	187.3	215.2
77.5°	99.1	99.1	100.7	103.7	103.7	106.1	112.8	117.0	126.1	141.5	162.8
80°	69.9	71.2	71.2	72.0	73.7	75.8	78.7	82.4	90.3	101.6	112.8
82.5°	45.8	46.2	46.6	48.7	47.9	50.0	51.2	55.8	59.5	64.9	72.0
85°	24.1	24.1	24.6	25.8	27.1	27.5	28.3	30.4	33.3	35.8	40.0
87.5°	10.0	9.6	9.6	10.4	10.4	10.8	11.2	12.1	13.7	13.7	15.4
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°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1064.0	1060.7	1054.8	1049.8	1043.6	1039.0	1034.4	1028.6	1022.8	1016.5	1009.9
5°	1106.4	1096.5	1085.2	1074.0	1060.7	1049.8	1038.2	1024.9	1013.6	1001.1	987.8
7.5°	1155.1	1137.7	1118.1	1096.0	1075.2	1056.5	1037.3	1019.0	1002.4	983.6	965.3
10°	1202.2	1171.8	1147.2	1117.3	1087.7	1060.2	1034.0	1009.9	985.7	962.4	939.9
12.5°	1234.2	1199.7	1168.9	1134.3	1099.8	1065.2	1030.7	997.4	968.7	940.4	916.6
15°	1256.3	1232.2	1191.4	1149.7	1104.4	1059.4	1020.3	981.6	947.4	914.5	886.2
17.5°	1270.0	1238.8	1198.9	1155.1	1105.2	1058.2	1011.1	964.9	925.8	890.4	858.3
20°	1273.8	1237.2	1195.5	1150.2	1100.2	1048.6	995.7	945.3	902.9	862.5	830.0
22.5°	1270.0	1227.6	1183.0	1138.9	1086.5	1034.0	978.6	923.7	875.0	833.4	799.2
25°	1263.8	1212.6	1166.0	1113.9	1065.2	1015.3	958.3	900.0	849.2	805.9	767.6
27.5°	1255.9	1197.2	1139.7	1088.5	1035.7	986.6	934.1	874.6	821.7	774.3	738.5
30°	1246.7	1176.8	1113.1	1052.3	1002.4	953.3	902.1	845.9	792.6	747.2	708.5
32.5°	1236.3	1155.1	1080.2	1014.9	961.6	916.2	868.3	814.6	762.2	713.5	679.8
35°	1221.8	1125.6	1044.8	974.1	918.7	869.6	827.5	780.5	728.5	683.1	648.1
37.5°	1204.7	1099.4	1009.0	932.4	872.1	821.7	783.0	744.7	696.0	652.3	618.6
40°	1181.8	1067.7	971.2	888.3	823.8	774.3	736.4	703.5	663.1	619.0	588.6
42.5°	1151.8	1032.8	928.3	840.0	777.6	724.7	689.3	659.4	624.8	586.5	556.6
45°	1117.7	992.8	880.4	793.8	726.0	675.6	641.1	614.0	587.8	553.6	525.7
47.5°	1064.4	945.8	837.1	741.4	674.8	626.1	593.6	567.8	548.2	521.2	493.7
50°	1001.1	892.5	785.9	689.8	622.3	575.3	544.5	522.0	505.4	484.5	463.7
52.5°	931.6	832.5	729.7	639.8	572.4	527.8	495.4	475.4	464.6	447.9	431.7
55°	850.4	765.1	669.4	587.4	521.2	475.8	447.9	433.8	421.7	413.4	398.8
57.5°	768.8	696.8	611.5	530.3	469.6	429.2	404.2	388.4	379.6	373.8	363.4
60°	679.8	623.2	544.9	474.5	420.4	382.1	360.1	347.2	339.3	335.9	328.9
62.5°	594.8	551.6	480.4	421.7	373.4	339.7	317.6	307.2	302.2	298.5	294.3
65°	511.2	477.0	420.8	365.9	325.1	294.7	277.2	268.9	265.2	261.0	260.6
67.5°	435.8	404.6	359.7	314.7	280.6	254.8	239.4	231.0	226.9	227.3	225.2
70°	361.7	337.6	301.0	264.3	235.2	214.8	200.2	194.8	193.1	192.7	191.1
72.5°	292.6	278.9	246.8	216.0	193.1	177.3	165.7	161.1	159.0	158.2	158.2
75°	231.9	221.9	194.4	171.1	153.6	140.7	132.8	129.5	126.5	128.2	127.0
77.5°	174.0	165.7	146.9	130.3	117.0	106.1	102.4	99.5	97.8	97.4	99.1
80°	122.4	117.4	105.7	92.4	82.4	76.2	73.7	71.2	69.9	69.1	69.9
82.5°	78.7	75.8	67.4	59.5	53.7	50.4	47.9	46.6	44.5	45.0	45.8
85°	42.9	42.0	36.6	34.1	28.7	28.3	26.6	25.4	25.8	25.0	26.2
87.5°	17.5	16.7	15.4	14.2	12.5	11.2	10.4	11.2	10.0	11.2	10.8
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5	1026.5
2.5°	1006.5	1002.0	996.5	991.6	984.1	979.1	976.6	977.4	974.5	973.7	973.2
5°	979.9	969.5	959.5	951.2	942.4	932.4	925.4	923.3	922.5	920.4	915.8
7.5°	952.4	939.1	926.2	914.1	901.6	890.0	882.9	877.1	873.7	867.9	866.7
10°	923.3	907.1	893.3	875.8	860.8	848.8	839.6	834.6	831.7	826.3	821.7
12.5°	895.4	878.3	857.1	841.3	825.5	813.0	802.6	794.2	792.2	785.1	781.3
15°	865.4	844.6	825.5	807.1	792.2	776.3	770.1	762.6	755.1	748.9	747.6
17.5°	836.7	811.7	793.0	775.1	756.8	745.1	736.8	731.8	726.0	722.6	716.8
20°	802.2	781.8	760.9	744.3	728.5	718.5	707.2	702.7	698.5	690.6	688.1
22.5°	773.0	748.5	731.0	714.3	700.2	686.0	678.1	673.5	667.3	663.1	659.8
25°	742.6	722.2	700.2	683.5	671.4	657.3	651.9	646.1	640.6	636.9	633.6
27.5°	713.1	690.6	672.7	656.0	643.6	633.6	626.1	619.8	616.1	613.2	611.1
30°	682.3	661.5	644.8	629.4	615.2	606.9	599.8	597.3	593.2	591.1	587.8
32.5°	654.4	633.1	617.3	604.0	591.5	583.2	579.0	575.3	571.1	567.4	567.0
35°	622.7	604.4	589.9	575.3	566.1	559.5	554.9	551.1	547.8	544.9	543.2
37.5°	594.8	577.4	561.1	550.7	540.7	534.9	529.9	528.7	525.3	525.7	523.3
40°	564.9	549.1	535.3	524.9	518.3	512.0	508.7	504.5	502.4	502.9	500.8
42.5°	535.7	521.2	508.7	499.1	492.0	487.5	484.5	481.2	478.7	477.0	476.6
45°	506.2	493.3	482.9	473.3	467.5	463.3	459.6	455.4	453.3	452.5	452.1
47.5°	477.0	465.4	454.2	447.5	442.1	438.3	434.6	431.3	429.6	428.3	426.3
50°	447.1	435.4	427.5	419.2	414.6	409.6	405.4	403.8	401.7	401.3	403.4
52.5°	415.9	406.7	399.6	393.0	387.5	382.1	378.0	375.9	377.1	377.1	379.6
55°	386.3	376.7	370.1	364.7	358.8	353.8	349.7	349.7	349.7	352.2	355.5
57.5°	353.4	345.1	340.1	333.8	328.4	325.1	322.2	321.8	323.4	327.6	331.4
60°	320.1	314.3	308.9	303.9	298.5	296.0	295.6	294.7	297.2	301.4	309.3
62.5°	287.2	283.5	276.8	274.3	269.7	266.8	266.8	267.7	271.4	278.1	285.1
65°	255.6	250.2	245.2	242.7	239.8	237.3	237.3	240.6	246.0	252.3	261.0
67.5°	223.1	218.5	215.2	212.7	209.4	208.1	209.4	213.1	219.8	226.0	235.2
70°	188.2	187.3	184.4	181.1	179.4	179.4	180.7	184.8	189.8	199.4	207.3
72.5°	156.1	156.1	154.4	152.4	151.1	152.4	153.2	157.3	163.6	171.9	180.7
75°	127.0	125.7	124.5	123.6	123.2	124.0	125.3	128.6	136.1	144.0	151.1
77.5°	98.2	97.4	96.2	97.0	97.0	97.4	101.2	104.9	109.1	115.3	122.8
80°	70.8	71.2	69.9	69.5	71.6	72.4	75.3	78.3	81.2	88.2	93.7
82.5°	46.6	47.5	47.0	47.9	48.7	48.7	52.0	54.9	57.4	62.4	66.6
85°	26.6	27.1	27.1	28.3	29.1	28.7	31.6	33.3	34.6	38.3	40.8
87.5°	11.7	12.1	12.5	12.5	12.5	14.2	14.6	15.4	15.8	16.7	17.9
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: P243692

CATALOG NUMBER: S125DR-H850D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1026.5	1026.5	1026.5	1026.5
2.5°	969.5	969.1	971.2	972.4
5°	912.9	911.6	910.0	910.8
7.5°	862.5	859.2	858.3	858.3
10°	818.0	814.6	813.8	812.6
12.5°	780.1	775.1	773.0	770.9
15°	744.3	743.5	738.9	734.3
17.5°	711.4	712.7	708.1	706.0
20°	683.9	680.2	678.5	677.7
22.5°	656.0	653.1	653.1	650.2
25°	631.1	628.6	629.0	626.1
27.5°	607.8	607.3	606.9	606.1
30°	586.1	584.4	582.8	583.6
32.5°	565.3	562.8	561.5	561.1
35°	543.6	542.8	541.2	540.3
37.5°	522.4	522.8	520.8	520.3
40°	499.5	499.1	498.7	497.9
42.5°	475.4	474.1	475.0	474.5
45°	451.2	450.0	450.8	449.6
47.5°	427.5	428.3	428.3	428.8
50°	404.2	405.9	405.9	407.1
52.5°	382.6	385.9	385.9	385.5
55°	359.2	363.0	364.2	364.7
57.5°	337.2	340.9	344.7	345.5
60°	313.5	320.1	323.9	324.7
62.5°	292.2	298.5	303.5	303.9
65°	268.5	276.0	280.6	282.2
67.5°	244.4	250.2	256.4	258.9
70°	216.9	224.0	228.1	229.8
72.5°	188.2	196.1	201.5	202.3
75°	160.7	166.5	170.7	171.5
77.5°	129.5	135.3	139.0	139.9
80°	98.2	103.2	105.7	107.4
82.5°	69.5	72.8	74.1	75.8
85°	42.9	45.4	45.8	45.8
87.5°	18.7	19.1	19.1	20.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)