

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: P243682

Luminaire Tested: **S125DR-H850D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243682  
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-H850D930-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

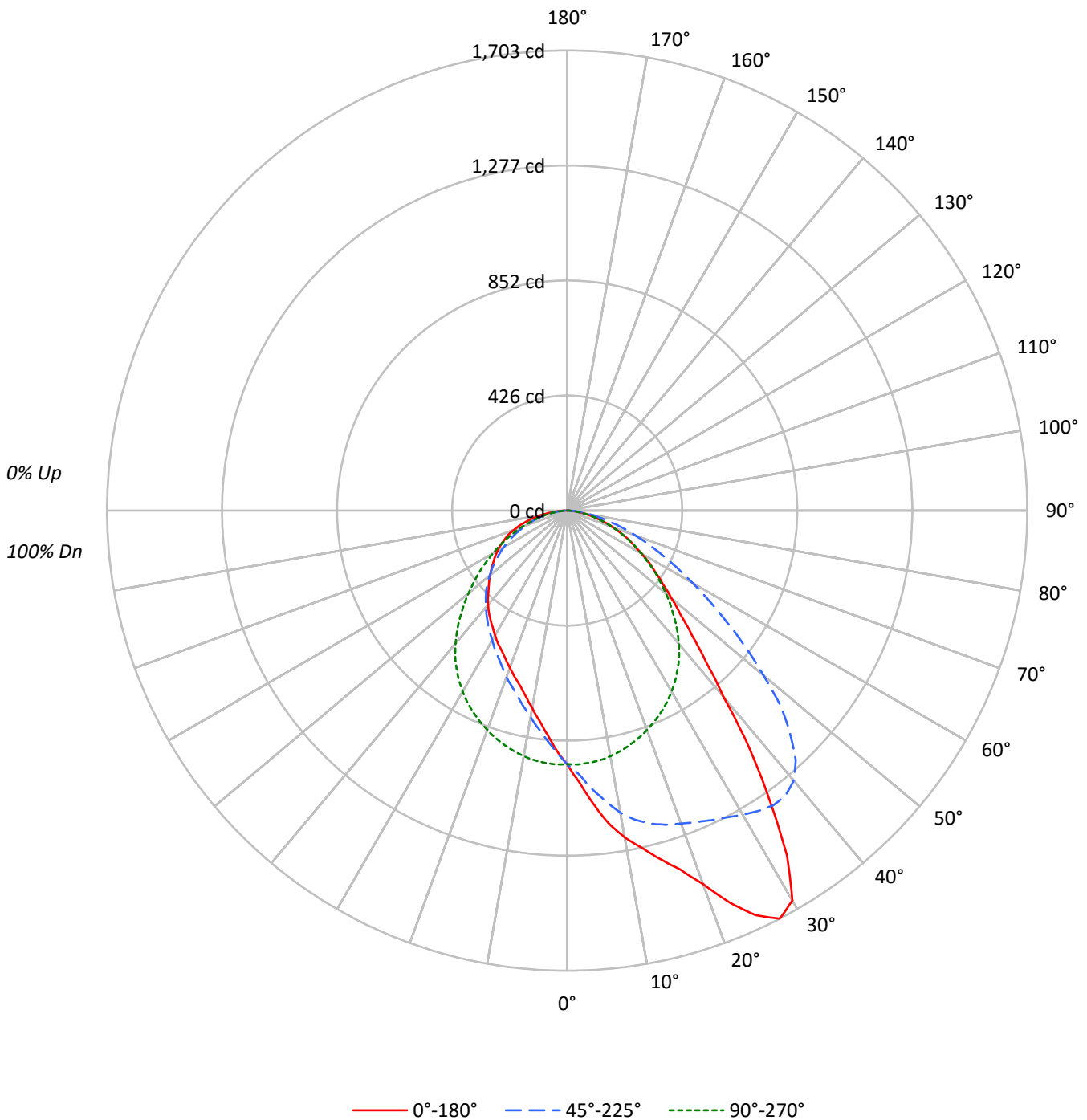
Lumens per Lamp: N/A  
Luminaire Lumens: 2674.9 lumens  
Efficiency: N/A  
Efficacy: 113.3 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.22 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	6671	6671	6671
5°	7749	6685	5942
10°	8867	6663	5361
15°	9830	6604	4940
20°	11129	6537	4686
25°	12960	6453	4489
30°	13681	6347	4379
35°	11313	6192	4286
40°	8369	5968	4223
45°	6580	5643	4131
50°	5572	5278	4115
55°	4961	4914	4131
60°	4502	4512	4220
65°	4174	4135	4339
70°	3749	3701	4366
75°	3199	3251	4306
80°	2615	2665	4019
85°	1802	1892	3417



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.7	3.4
10°-20°	270.9	10.1
20°-30°	440.5	16.5
30°-40°	535.9	20.0
40°-50°	490.4	18.3
50°-60°	392.4	14.7
60°-70°	273.3	10.2
70°-80°	145.3	5.4
80°-90°	35.7	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°	802.0	30.0
0°-40°	1337.9	50.0
0°-60°	2220.7	83.0
0°-90°	2674.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2674.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	939	939	939	939	939	
5°	1086	1031	937	852	833	108
15°	1336	1200	898	710	671	383
25°	1653	1264	823	601	572	755
35°	1304	1331	714	512	494	808
45°	655	1167	561	424	411	516
55°	400	724	397	324	333	361
65°	248	387	246	217	258	244
75°	116	171	118	113	157	126
85°	22	33	23	26	42	29
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°	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6
2.5°	1004.8	1000.6	999.5	999.8	997.6	995.6	991.1	985.0	980.8	975.5	974.0
5°	1086.2	1076.0	1077.9	1074.8	1069.9	1063.4	1057.7	1048.6	1039.8	1031.4	1020.4
7.5°	1166.2	1164.3	1158.9	1158.2	1150.2	1139.1	1127.7	1115.2	1096.5	1083.6	1068.7
10°	1228.6	1232.4	1224.8	1225.1	1211.1	1200.0	1190.1	1173.8	1152.8	1135.3	1113.6
12.5°	1278.8	1280.3	1279.2	1274.2	1265.1	1246.5	1236.9	1219.8	1197.0	1173.0	1156.3
15°	1335.9	1331.7	1325.2	1319.2	1305.8	1292.5	1272.7	1252.6	1223.6	1199.6	1175.3
17.5°	1393.0	1392.2	1384.2	1371.3	1354.6	1337.0	1307.4	1281.5	1250.6	1219.1	1188.6
20°	1471.4	1467.2	1455.4	1440.6	1409.7	1385.0	1348.1	1312.7	1272.3	1232.8	1197.4
22.5°	1569.6	1555.9	1544.1	1521.3	1485.9	1442.9	1401.4	1350.0	1293.7	1247.2	1203.1
25°	1652.6	1646.5	1633.9	1608.4	1568.1	1516.3	1454.6	1396.4	1325.6	1264.0	1206.5
27.5°	1702.8	1700.1	1692.5	1668.5	1635.1	1583.7	1517.8	1443.6	1363.3	1280.0	1211.1
30°	1667.0	1667.4	1671.6	1668.9	1654.1	1621.0	1562.4	1487.8	1394.9	1299.0	1212.2
32.5°	1513.3	1523.5	1556.3	1571.9	1592.8	1599.7	1573.4	1511.4	1421.5	1318.0	1216.0
35°	1303.9	1329.1	1351.1	1396.8	1451.2	1495.8	1521.6	1501.5	1432.6	1331.0	1217.9
37.5°	1106.8	1104.9	1139.1	1188.6	1246.5	1322.2	1395.7	1436.0	1413.5	1328.3	1214.5
40°	902.0	919.5	940.8	984.6	1052.4	1145.6	1233.1	1319.5	1350.7	1304.7	1201.2
42.5°	762.0	770.0	791.3	825.5	874.2	969.4	1055.8	1166.9	1246.8	1252.2	1171.9
45°	654.6	663.4	669.5	703.3	748.6	812.6	901.3	1013.2	1120.5	1166.9	1124.3
47.5°	568.6	573.6	586.9	607.4	637.1	693.8	764.6	866.2	983.1	1073.3	1058.8
50°	503.9	507.7	518.4	529.8	554.2	596.0	653.1	736.5	848.7	947.3	979.7
52.5°	446.8	451.8	457.1	468.1	490.6	518.8	565.2	630.3	734.6	835.4	886.8
55°	400.4	402.3	408.0	416.4	433.5	454.8	491.7	550.7	623.8	724.3	795.1
57.5°	360.0	358.1	364.2	369.9	381.4	399.2	425.9	469.7	539.3	624.9	698.8
60°	316.7	318.6	323.1	327.7	335.7	351.3	372.2	407.2	458.2	535.1	610.5
62.5°	279.4	280.9	282.0	288.5	295.7	306.8	323.9	352.4	394.7	458.2	525.6
65°	248.2	245.5	247.0	251.6	257.3	266.4	282.4	303.3	334.9	386.7	442.6
67.5°	211.6	212.4	212.8	215.4	220.4	229.1	240.5	257.7	283.5	324.3	373.4
70°	180.4	180.8	181.2	183.4	187.6	192.6	200.6	213.9	236.0	267.6	306.0
72.5°	148.4	150.0	150.0	151.9	154.9	157.6	165.2	176.2	193.0	218.1	250.4
75°	116.5	119.1	119.9	122.2	124.8	125.6	131.3	140.1	150.7	171.3	196.8
77.5°	90.6	90.6	92.1	94.8	94.8	97.1	103.1	106.9	115.3	129.4	148.8
80°	63.9	65.1	65.1	65.8	67.4	69.3	71.9	75.4	82.6	92.9	103.1
82.5°	41.9	42.2	42.6	44.5	43.8	45.7	46.8	51.0	54.4	59.4	65.8
85°	22.1	22.1	22.5	23.6	24.7	25.1	25.9	27.8	30.4	32.7	36.5
87.5°	9.1	8.8	8.8	9.5	9.5	9.9	10.3	11.0	12.6	12.6	14.1
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6
2.5°	972.8	969.8	964.4	959.9	954.2	950.0	945.8	940.5	935.1	929.4	923.3
5°	1011.6	1002.5	992.2	981.9	969.8	959.9	949.2	937.0	926.8	915.3	903.2
7.5°	1056.2	1040.2	1022.3	1002.1	983.1	966.0	948.5	931.7	916.5	899.4	882.6
10°	1099.2	1071.4	1048.9	1021.5	994.5	969.4	945.4	923.3	901.3	879.9	859.4
12.5°	1128.5	1096.9	1068.7	1037.1	1005.5	974.0	942.4	911.9	885.7	859.8	838.1
15°	1148.6	1126.6	1089.3	1051.2	1009.7	968.6	932.8	897.5	866.2	836.2	810.3
17.5°	1161.2	1132.7	1096.1	1056.2	1010.5	967.5	924.5	882.2	846.5	814.1	784.8
20°	1164.6	1131.1	1093.1	1051.6	1005.9	958.7	910.4	864.3	825.5	788.6	758.9
22.5°	1161.2	1122.4	1081.7	1041.3	993.4	945.4	894.8	844.5	800.0	762.0	730.8
25°	1155.5	1108.7	1066.1	1018.5	974.0	928.3	876.1	822.9	776.4	736.8	701.8
27.5°	1148.3	1094.6	1042.1	995.3	946.9	902.0	854.1	799.6	751.3	707.9	675.2
30°	1139.9	1076.0	1017.7	962.2	916.5	871.6	824.8	773.4	724.7	683.2	647.8
32.5°	1130.4	1056.2	987.7	927.9	879.2	837.7	793.9	744.8	696.9	652.3	621.5
35°	1117.1	1029.1	955.3	890.6	840.0	795.1	756.6	713.6	666.0	624.6	592.6
37.5°	1101.5	1005.2	922.6	852.5	797.4	751.3	715.9	680.9	636.4	596.4	565.6
40°	1080.5	976.2	887.9	812.2	753.2	707.9	673.3	643.2	606.3	566.0	538.2
42.5°	1053.1	944.3	848.7	768.0	711.0	662.6	630.3	602.9	571.3	536.3	508.9
45°	1021.9	907.7	805.0	725.8	663.8	617.7	586.1	561.4	537.4	506.2	480.7
47.5°	973.2	864.7	765.4	677.8	617.0	572.4	542.7	519.1	501.2	476.5	451.4
50°	915.3	816.0	718.6	630.7	569.0	526.0	497.8	477.3	462.0	443.0	424.0
52.5°	851.8	761.2	667.2	585.0	523.3	482.6	452.9	434.6	424.7	409.5	394.7
55°	777.6	699.5	612.0	537.0	476.5	435.0	409.5	396.6	385.5	377.9	364.6
57.5°	703.0	637.1	559.1	484.9	429.3	392.4	369.6	355.1	347.1	341.8	332.3
60°	621.5	569.8	498.2	433.9	384.4	349.4	329.2	317.4	310.2	307.1	300.7
62.5°	543.9	504.3	439.2	385.5	341.4	310.6	290.4	280.9	276.3	272.9	269.1
65°	467.4	436.2	384.8	334.5	297.2	269.5	253.5	245.9	242.4	238.6	238.3
67.5°	398.5	369.9	328.8	287.7	256.5	232.9	218.8	211.2	207.4	207.8	205.9
70°	330.7	308.7	275.2	241.7	215.0	196.4	183.1	178.1	176.6	176.2	174.7
72.5°	267.6	255.0	225.7	197.5	176.6	162.1	151.5	147.3	145.4	144.6	144.6
75°	212.0	202.9	177.7	156.4	140.4	128.6	121.4	118.4	115.7	117.2	116.1
77.5°	159.1	151.5	134.4	119.1	106.9	97.1	93.6	91.0	89.4	89.1	90.6
80°	111.9	107.3	96.7	84.5	75.4	69.6	67.4	65.1	63.9	63.2	63.9
82.5°	71.9	69.3	61.7	54.4	49.1	46.1	43.8	42.6	40.7	41.1	41.9
85°	39.2	38.4	33.5	31.2	26.3	25.9	24.4	23.2	23.6	22.8	24.0
87.5°	16.0	15.2	14.1	12.9	11.4	10.3	9.5	10.3	9.1	10.3	9.9
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6	938.6
2.5°	920.3	916.1	911.2	906.6	899.7	895.2	892.9	893.6	891.0	890.2	889.8
5°	895.9	886.4	877.3	869.7	861.7	852.5	846.1	844.2	843.4	841.5	837.3
7.5°	870.8	858.6	846.8	835.8	824.4	813.7	807.3	801.9	798.9	793.5	792.4
10°	844.2	829.3	816.8	800.8	787.1	776.0	767.7	763.1	760.4	755.5	751.3
12.5°	818.7	803.1	783.7	769.2	754.7	743.3	733.8	726.2	724.3	717.8	714.4
15°	791.3	772.2	754.7	738.0	724.3	709.8	704.1	697.3	690.4	684.7	683.6
17.5°	765.0	742.2	725.0	708.7	691.9	681.3	673.7	669.1	663.8	660.7	655.4
20°	733.4	714.8	695.7	680.5	666.0	656.9	646.6	642.5	638.6	631.4	629.1
22.5°	706.8	684.3	668.3	653.1	640.2	627.2	620.0	615.8	610.1	606.3	603.2
25°	679.0	660.3	640.2	624.9	613.9	601.0	596.0	590.7	585.7	582.3	579.3
27.5°	652.0	631.4	615.0	599.8	588.4	579.3	572.4	566.7	563.3	560.6	558.7
30°	623.8	604.8	589.5	575.5	562.5	554.9	548.4	546.2	542.4	540.5	537.4
32.5°	598.3	578.9	564.4	552.2	540.8	533.2	529.4	526.0	522.2	518.8	518.4
35°	569.4	552.6	539.3	526.0	517.6	511.5	507.3	503.9	500.9	498.2	496.7
37.5°	543.9	527.9	513.0	503.5	494.4	489.1	484.5	483.4	480.3	480.7	478.4
40°	516.5	502.0	489.5	479.9	473.8	468.1	465.1	461.3	459.4	459.8	457.9
42.5°	489.8	476.5	465.1	456.3	449.9	445.7	443.0	440.0	437.7	436.2	435.8
45°	462.8	451.0	441.5	432.7	427.4	423.6	420.2	416.4	414.5	413.7	413.3
47.5°	436.2	425.5	415.2	409.1	404.2	400.8	397.3	394.3	392.8	391.6	389.7
50°	408.8	398.1	390.9	383.3	379.1	374.5	370.7	369.2	367.3	366.9	368.8
52.5°	380.2	371.8	365.4	359.3	354.3	349.4	345.6	343.7	344.8	344.8	347.1
55°	353.2	344.4	338.4	333.4	328.1	323.5	319.7	319.7	319.7	322.0	325.0
57.5°	323.1	315.5	310.9	305.2	300.3	297.2	294.6	294.2	295.7	299.5	303.0
60°	292.7	287.4	282.4	277.8	272.9	270.6	270.2	269.5	271.7	275.6	282.8
62.5°	262.6	259.2	253.1	250.8	246.6	244.0	244.0	244.7	248.2	254.2	260.7
65°	233.7	228.7	224.2	221.9	219.2	216.9	216.9	220.0	224.9	230.6	238.6
67.5°	204.0	199.8	196.8	194.5	191.4	190.3	191.4	194.9	201.0	206.7	215.0
70°	172.0	171.3	168.6	165.6	164.0	164.0	165.2	169.0	173.6	182.3	189.5
72.5°	142.7	142.7	141.2	139.3	138.2	139.3	140.1	143.9	149.6	157.2	165.2
75°	116.1	114.9	113.8	113.0	112.7	113.4	114.6	117.6	124.5	131.7	138.2
77.5°	89.8	89.1	87.9	88.7	88.7	89.1	92.5	95.9	99.7	105.4	112.3
80°	64.7	65.1	63.9	63.6	65.5	66.2	68.9	71.6	74.2	80.7	85.6
82.5°	42.6	43.4	43.0	43.8	44.5	44.5	47.6	50.2	52.5	57.1	60.9
85°	24.4	24.7	24.7	25.9	26.6	26.3	28.9	30.4	31.6	35.0	37.3
87.5°	10.7	11.0	11.4	11.4	11.4	12.9	13.3	14.1	14.5	15.2	16.4
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: P243682

CATALOG NUMBER: S125DR-H850D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	938.6	938.6	938.6	938.6
2.5°	886.4	886.0	887.9	889.1
5°	834.7	833.5	832.0	832.8
7.5°	788.6	785.6	784.8	784.8
10°	747.9	744.8	744.1	742.9
12.5°	713.2	708.7	706.8	704.9
15°	680.5	679.7	675.6	671.4
17.5°	650.4	651.6	647.4	645.5
20°	625.3	621.9	620.4	619.6
22.5°	599.8	597.2	597.2	594.5
25°	577.0	574.7	575.1	572.4
27.5°	555.7	555.3	554.9	554.2
30°	535.9	534.4	532.8	533.6
32.5°	516.9	514.6	513.4	513.0
35°	497.1	496.3	494.8	494.0
37.5°	477.7	478.0	476.1	475.7
40°	456.7	456.3	456.0	455.2
42.5°	434.6	433.5	434.3	433.9
45°	412.6	411.4	412.2	411.0
47.5°	390.9	391.6	391.6	392.0
50°	369.6	371.1	371.1	372.2
52.5°	349.8	352.8	352.8	352.4
55°	328.5	331.9	333.0	333.4
57.5°	308.3	311.7	315.1	315.9
60°	286.6	292.7	296.1	296.9
62.5°	267.2	272.9	277.5	277.8
65°	245.5	252.3	256.5	258.0
67.5°	223.4	228.7	234.4	236.7
70°	198.3	204.8	208.6	210.1
72.5°	172.0	179.3	184.2	185.0
75°	146.9	152.2	156.0	156.8
77.5°	118.4	123.7	127.1	127.9
80°	89.8	94.4	96.7	98.2
82.5°	63.6	66.6	67.7	69.3
85°	39.2	41.5	41.9	41.9
87.5°	17.1	17.5	17.5	18.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)