

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: P332420

Luminaire Tested: **S123RDIW-S560D1030U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332420
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S560D1030U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6260.2 lumens
Efficiency: N/A
Efficacy: 138.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

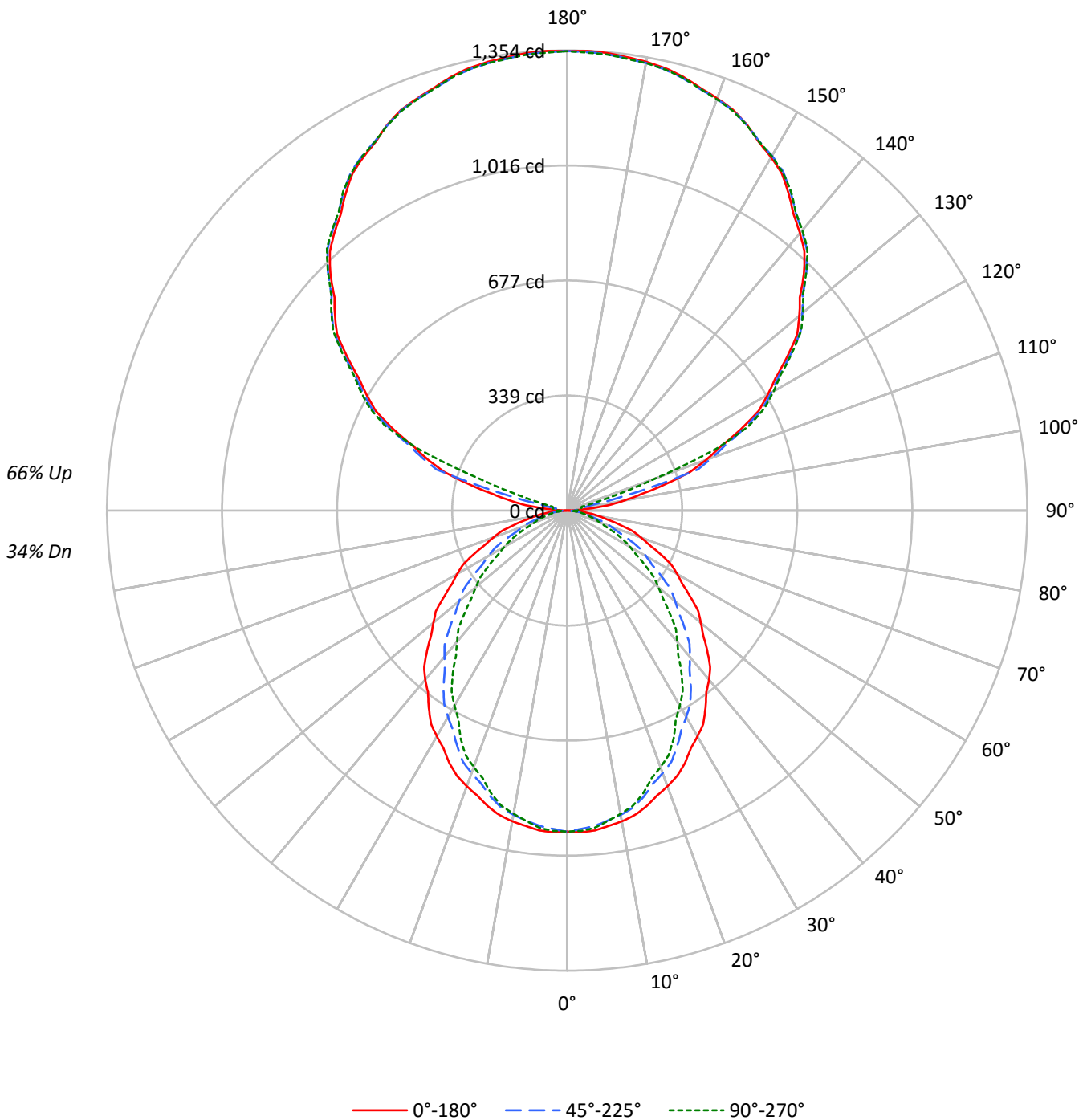
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	61	51	49	48	37	36	35	29
2	86	79	73	68	78	72	67	62	58	54	51	45	42	40	33	31	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	27	26	21
4	72	62	54	48	65	56	50	44	45	41	37	35	32	30	26	24	22	18
5	66	55	47	41	59	50	43	38	41	36	32	32	28	26	24	21	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	15	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	1.4
10°-20°	246.8	3.9
20°-30°	355.3	5.7
30°-40°	400.3	6.4
40°-50°	382.9	6.1
50°-60°	313.6	5.0
60°-70°	211.6	3.4
70°-80°	106.4	1.7
80°-90°	31.9	0.5
90°-100°	49.2	0.8
100°-110°	234.3	3.7
110°-120°	562.7	9.0
120°-130°	716.5	11.4
130°-140°	765.6	12.2
140°-150°	715.9	11.4
150°-160°	577.5	9.2
160°-170°	372.7	6.0
170°-180°	128.4	2.1
0°-30°	690.8	11.0
0°-40°	1091.1	17.4
0°-60°	1787.6	28.6
0°-90°	2137.5	34.1
90°-120°	846.1	13.5
90°-150°	3044.1	48.6
90°-180°	4123.0	65.9
0°-180°	6260.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	1	11	24	28	30	5
95°	61	23	31	38	38	76
105°	299	305	220	52	44	317
115°	562	568	576	586	591	554
125°	792	799	804	806	808	707
135°	985	991	995	998	995	758
145°	1137	1144	1146	1148	1148	711
155°	1252	1251	1252	1256	1250	577
165°	1321	1318	1317	1324	1318	373
175°	1352	1347	1348	1354	1347	129
180°	1352	1352	1352	1352	1352	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.9	13.9	12.8	11.8	10.7	10.5	11.0	11.6	12.2	12.8	12.8
90°	1.0	3.2	5.5	7.7	9.9	12.5	15.4	18.3	21.2	24.1	25.0
92.5°	18.7	18.1	17.4	16.8	16.2	17.0	19.2	21.3	23.5	25.7	27.1
95°	61.3	52.1	43.0	33.8	24.7	21.3	23.8	26.2	28.7	31.1	32.7
97.5°	123.1	119.0	114.9	110.8	106.7	96.6	80.6	64.5	48.4	32.3	34.1
100°	169.7	174.2	178.7	183.1	187.6	172.4	137.6	102.8	68.0	33.1	34.9
102.5°	222.8	226.0	229.2	232.4	235.6	218.2	180.2	142.2	104.1	66.1	60.6
105°	299.3	301.8	304.2	306.7	309.1	300.3	280.2	260.1	240.1	220.0	180.5
107.5°	380.1	382.0	384.0	386.0	387.9	390.5	393.7	396.8	400.0	403.2	374.2
110°	433.9	435.7	437.5	439.3	441.0	443.2	445.6	448.1	450.5	453.0	445.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	485.3	486.9	488.5	490.2	491.8	493.8	496.2	498.7	501.2	503.6	503.7
115°	561.5	562.8	564.1	565.5	566.8	568.5	570.5	572.5	574.5	576.5	578.8
117.5°	635.2	636.8	638.5	640.1	641.8	643.1	644.2	645.2	646.2	647.2	649.0
120°	681.0	683.0	685.0	687.0	689.0	690.4	691.0	691.7	692.4	693.0	694.8
122.5°	727.6	729.2	730.9	732.5	734.2	735.4	736.3	737.1	738.0	738.8	740.1
125°	791.5	793.3	795.0	796.8	798.6	800.0	800.8	801.7	802.6	803.5	804.0
127.5°	853.3	855.1	856.9	858.7	860.5	861.9	863.0	864.1	865.1	866.2	866.9
130°	891.9	893.7	895.5	897.3	899.1	900.4	901.3	902.2	903.1	904.0	904.9
132.5°	928.9	930.7	932.4	934.2	936.0	937.3	938.0	938.7	939.4	940.1	941.0
135°	985.3	986.7	988.0	989.3	990.7	991.8	992.7	993.6	994.5	995.4	996.0
137.5°	1033.5	1035.2	1036.9	1038.6	1040.3	1041.4	1041.9	1042.4	1042.9	1043.4	1044.4
140°	1065.7	1067.0	1068.4	1069.7	1071.0	1072.0	1072.7	1073.4	1074.0	1074.7	1075.6
142.5°	1095.4	1096.7	1098.1	1099.4	1100.8	1101.8	1102.4	1103.1	1103.8	1104.4	1105.2
145°	1137.0	1138.5	1140.1	1141.7	1143.2	1144.2	1144.7	1145.1	1145.6	1146.0	1146.5
147.5°	1176.2	1177.2	1178.2	1179.2	1180.3	1181.0	1181.4	1181.9	1182.3	1182.8	1183.2
150°	1200.3	1200.9	1201.6	1202.3	1202.9	1203.5	1203.9	1204.4	1204.8	1205.3	1205.7
152.5°	1222.0	1222.3	1222.6	1222.9	1223.2	1223.5	1223.8	1224.0	1224.3	1224.6	1225.4
155°	1252.5	1252.0	1251.6	1251.2	1250.7	1250.6	1250.8	1251.0	1251.3	1251.5	1252.6
157.5°	1276.2	1276.2	1276.1	1276.1	1276.0	1275.9	1275.7	1275.4	1275.2	1275.0	1276.3
160°	1290.7	1290.4	1290.2	1290.0	1289.8	1289.5	1289.3	1289.1	1288.9	1288.7	1290.0
162.5°	1304.3	1303.7	1303.2	1302.6	1302.0	1301.6	1301.4	1301.2	1300.9	1300.7	1302.2
165°	1320.8	1320.1	1319.5	1318.8	1318.1	1317.7	1317.4	1317.2	1317.0	1316.8	1318.6
167.5°	1333.6	1332.8	1331.9	1331.0	1330.1	1329.6	1329.6	1329.6	1329.6	1329.6	1331.4
170°	1340.9	1340.0	1339.1	1338.2	1337.3	1336.9	1336.9	1336.9	1336.9	1336.9	1338.6
172.5°	1345.7	1344.6	1343.6	1342.5	1341.4	1341.0	1341.1	1341.3	1341.5	1341.7	1343.5
175°	1351.9	1350.8	1349.7	1348.6	1347.5	1347.0	1347.2	1347.5	1347.7	1347.9	1349.5
177.5°	1353.5	1352.6	1351.8	1350.9	1350.0	1349.6	1349.8	1350.0	1350.1	1350.3	1351.8
180°	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	12.9	12.9	13.0	13.0	12.9	12.9	12.8	12.8
90°	25.9	26.8	27.7	28.3	28.8	29.2	29.7	30.1
92.5°	28.6	30.0	31.4	32.3	32.5	32.8	33.1	33.3
95°	34.3	35.8	37.4	38.2	38.2	38.2	38.2	38.2
97.5°	35.9	37.7	39.5	40.5	40.7	40.9	41.2	41.4
100°	36.7	38.5	40.3	41.3	41.5	41.7	42.0	42.2
102.5°	55.0	49.5	43.9	41.4	41.8	42.2	42.6	43.0
105°	141.0	101.4	61.9	42.4	42.9	43.3	43.7	44.2
107.5°	345.2	316.3	287.3	257.9	228.1	198.4	168.6	138.8
110°	438.3	430.9	423.5	403.9	372.0	340.0	308.1	276.2



TEST NUMBER: P332420

CATALOG NUMBER: S123RDIW-S560D1030U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	503.9	504.0	504.1	500.8	494.1	487.4	480.6	473.9
115°	581.0	583.2	585.5	587.0	587.9	588.8	589.7	590.6
117.5°	650.8	652.6	654.4	655.4	655.5	655.7	655.9	656.1
120°	696.6	698.4	700.2	701.1	701.1	701.1	701.1	701.1
122.5°	741.3	742.6	743.8	744.6	744.7	744.9	745.1	745.3
125°	804.4	804.9	805.3	805.8	806.2	806.6	807.1	807.5
127.5°	867.6	868.3	869.1	869.2	868.7	868.3	867.9	867.4
130°	905.8	906.6	907.5	907.8	907.3	906.9	906.4	906.0
132.5°	941.9	942.8	943.7	943.8	943.2	942.6	942.0	941.3
135°	996.7	997.4	998.0	998.0	997.4	996.7	996.0	995.4
137.5°	1045.5	1046.6	1047.7	1048.0	1047.5	1047.1	1046.6	1046.2
140°	1076.5	1077.4	1078.3	1078.5	1078.1	1077.6	1077.2	1076.7
142.5°	1105.9	1106.6	1107.3	1107.3	1106.7	1106.1	1105.5	1104.8
145°	1146.9	1147.4	1147.8	1148.0	1148.0	1148.0	1148.0	1148.0
147.5°	1183.7	1184.1	1184.6	1184.3	1183.3	1182.2	1181.2	1180.2
150°	1206.2	1206.6	1207.1	1207.0	1206.3	1205.6	1205.0	1204.3
152.5°	1226.2	1227.0	1227.8	1227.7	1226.6	1225.6	1224.6	1223.6
155°	1253.7	1254.8	1256.0	1255.8	1254.5	1253.2	1251.8	1250.5
157.5°	1277.7	1279.0	1280.3	1280.1	1278.4	1276.7	1274.9	1273.2
160°	1291.3	1292.7	1294.0	1293.9	1292.3	1290.8	1289.2	1287.6
162.5°	1303.7	1305.3	1306.8	1306.8	1305.5	1304.1	1302.7	1301.3
165°	1320.3	1322.1	1323.9	1324.0	1322.5	1320.9	1319.3	1317.8
167.5°	1333.2	1335.0	1336.8	1336.8	1335.0	1333.2	1331.4	1329.6
170°	1340.4	1342.2	1344.0	1344.0	1342.2	1340.4	1338.6	1336.9
172.5°	1345.3	1347.0	1348.8	1348.7	1346.8	1344.8	1342.8	1340.9
175°	1351.0	1352.6	1354.2	1354.1	1352.3	1350.5	1348.7	1346.9
177.5°	1353.2	1354.6	1356.0	1355.9	1354.1	1352.3	1350.5	1348.7
180°	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9	1351.9

(END OF REPORT)