

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: P332291

Luminaire Tested: **S123RDIP-S560D1025U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332291
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: S123RDIP-S560D1025U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6234.5 lumens
Efficiency: N/A
Efficacy: 140.1 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

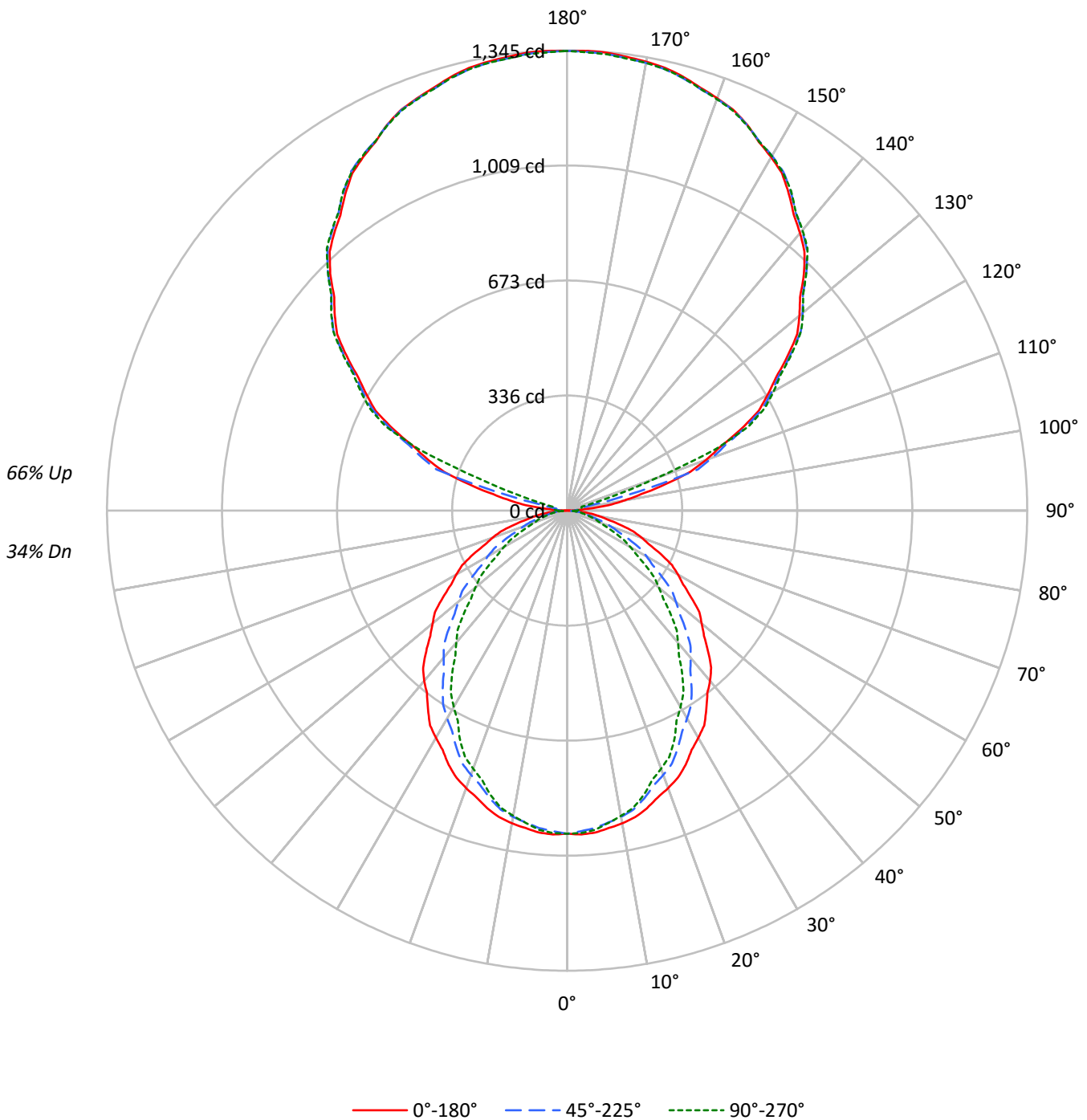
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	62	51	49	48	37	36	36	29
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	33	32	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	28	26	21
4	72	62	54	48	65	56	50	44	45	41	37	36	32	30	26	24	23	18
5	66	55	47	41	60	50	43	38	41	36	32	32	28	26	24	22	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	16	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	49	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	4.0
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°	48.8	0.8
100°-110°	232.8	3.7
110°-120°	559.2	9.0
120°-130°	712.1	11.4
130°-140°	760.8	12.2
140°-150°	711.5	11.4
150°-160°	573.9	9.2
160°-170°	370.4	5.9
170°-180°	127.6	2.0
0°-30°	690.8	11.1
0°-40°	1091.1	17.5
0°-60°	1787.6	28.7
0°-90°	2137.5	34.3
90°-120°	840.8	13.5
90°-150°	3025.2	48.5
90°-180°	4097.0	65.7
0°-180°	6234.5	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	75
105°	297	303	219	52	44	315
115°	558	564	573	583	587	551
125°	786	794	798	800	802	702
135°	979	985	989	992	989	754
145°	1130	1137	1139	1141	1141	707
155°	1245	1243	1244	1248	1243	573
165°	1313	1310	1309	1316	1310	371
175°	1344	1339	1340	1346	1338	128
180°	1344	1344	1344	1344	1344	



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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	11.7	10.7	10.5	11.0	11.6	12.2	12.8	12.8
90°	1.0	3.2	5.4	7.7	9.9	12.4	15.3	18.2	21.1	24.0	24.8
92.5°	18.6	17.9	17.3	16.7	16.1	16.9	19.0	21.2	23.4	25.6	27.0
95°	60.9	51.8	42.7	33.6	24.5	21.2	23.6	26.1	28.5	30.9	32.5
97.5°	122.4	118.3	114.2	110.1	106.0	96.0	80.1	64.1	48.1	32.1	33.9
100°	168.7	173.1	177.6	182.0	186.4	171.3	136.7	102.1	67.5	32.9	34.7
102.5°	221.4	224.6	227.8	231.0	234.2	216.9	179.1	141.3	103.5	65.7	60.2
105°	297.4	299.9	302.3	304.8	307.2	298.4	278.5	258.5	238.6	218.6	179.3
107.5°	377.7	379.7	381.6	383.6	385.5	388.1	391.2	394.4	397.5	400.7	371.9
110°	431.2	433.0	434.7	436.5	438.3	440.4	442.8	445.3	447.7	450.2	442.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.3	483.9	485.5	487.1	488.7	490.7	493.2	495.6	498.0	500.5	500.6
115°	558.0	559.3	560.6	562.0	563.3	565.0	566.9	568.9	570.9	572.9	575.2
117.5°	631.2	632.9	634.5	636.2	637.8	639.1	640.1	641.2	642.2	643.2	645.0
120°	676.7	678.7	680.7	682.7	684.7	686.1	686.7	687.4	688.1	688.7	690.5
122.5°	723.1	724.7	726.3	728.0	729.6	730.9	731.7	732.6	733.4	734.2	735.5
125°	786.5	788.3	790.1	791.9	793.6	795.0	795.9	796.7	797.6	798.5	799.0
127.5°	848.0	849.8	851.6	853.3	855.1	856.5	857.6	858.7	859.7	860.8	861.5
130°	886.4	888.1	889.9	891.7	893.5	894.8	895.7	896.6	897.4	898.3	899.2
132.5°	923.1	924.9	926.6	928.4	930.2	931.4	932.1	932.8	933.6	934.3	935.2
135°	979.2	980.5	981.8	983.2	984.5	985.6	986.5	987.4	988.3	989.2	989.8
137.5°	1027.1	1028.8	1030.5	1032.2	1033.8	1034.9	1035.4	1035.9	1036.4	1036.9	1037.9
140°	1059.0	1060.4	1061.7	1063.0	1064.4	1065.4	1066.0	1066.7	1067.4	1068.0	1068.9
142.5°	1088.6	1089.9	1091.2	1092.6	1093.9	1094.9	1095.6	1096.2	1096.9	1097.6	1098.3
145°	1129.9	1131.5	1133.0	1134.6	1136.1	1137.1	1137.6	1138.0	1138.4	1138.9	1139.3
147.5°	1168.8	1169.9	1170.9	1171.9	1172.9	1173.6	1174.1	1174.5	1175.0	1175.4	1175.9
150°	1192.8	1193.5	1194.1	1194.8	1195.4	1196.0	1196.4	1196.9	1197.3	1197.8	1198.2
152.5°	1214.3	1214.7	1215.0	1215.3	1215.6	1215.9	1216.1	1216.4	1216.7	1216.9	1217.7
155°	1244.7	1244.2	1243.8	1243.4	1242.9	1242.8	1243.0	1243.2	1243.5	1243.7	1244.8
157.5°	1268.2	1268.2	1268.2	1268.1	1268.1	1267.9	1267.7	1267.5	1267.3	1267.0	1268.4
160°	1282.6	1282.4	1282.2	1282.0	1281.7	1281.5	1281.3	1281.1	1280.8	1280.6	1282.0
162.5°	1296.2	1295.6	1295.0	1294.5	1293.9	1293.5	1293.3	1293.0	1292.8	1292.6	1294.1
165°	1312.6	1311.9	1311.2	1310.6	1309.9	1309.5	1309.2	1309.0	1308.8	1308.6	1310.3
167.5°	1325.3	1324.5	1323.6	1322.7	1321.8	1321.3	1321.3	1321.3	1321.3	1321.3	1323.1
170°	1332.5	1331.6	1330.8	1329.9	1329.0	1328.5	1328.5	1328.5	1328.5	1328.5	1330.3
172.5°	1337.3	1336.3	1335.2	1334.1	1333.1	1332.6	1332.8	1333.0	1333.1	1333.3	1335.1
175°	1343.5	1342.4	1341.3	1340.2	1339.1	1338.6	1338.8	1339.1	1339.3	1339.5	1341.1
177.5°	1345.1	1344.2	1343.3	1342.4	1341.6	1341.2	1341.4	1341.6	1341.7	1341.9	1343.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5



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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°	12.8	12.9	12.9	12.9	12.9	12.8	12.8	12.7
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	28.4	29.8	31.2	32.1	32.3	32.6	32.9	33.1
95°	34.0	35.6	37.2	37.9	37.9	37.9	37.9	37.9
97.5°	35.7	37.5	39.2	40.2	40.5	40.7	40.9	41.1
100°	36.5	38.3	40.0	41.0	41.3	41.5	41.7	41.9
102.5°	54.7	49.2	43.7	41.1	41.5	41.9	42.3	42.7
105°	140.1	100.8	61.6	42.1	42.6	43.0	43.5	43.9
107.5°	343.1	314.3	285.5	256.3	226.7	197.1	167.5	137.9
110°	435.5	428.2	420.9	401.4	369.6	337.9	306.2	274.5



TEST NUMBER: P332291

CATALOG NUMBER: S123RDIP-S560D1025U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.7	500.9	501.0	497.7	491.0	484.3	477.6	470.9
115°	577.4	579.6	581.8	583.4	584.2	585.1	586.0	586.9
117.5°	646.8	648.5	650.3	651.3	651.5	651.6	651.8	652.0
120°	692.3	694.0	695.8	696.7	696.7	696.7	696.7	696.7
122.5°	736.7	738.0	739.2	739.9	740.1	740.3	740.4	740.6
125°	799.4	799.8	800.3	800.7	801.2	801.6	802.1	802.5
127.5°	862.2	862.9	863.6	863.8	863.3	862.9	862.4	862.0
130°	900.1	901.0	901.9	902.1	901.7	901.2	900.8	900.3
132.5°	936.0	936.9	937.8	937.9	937.3	936.7	936.1	935.5
135°	990.5	991.2	991.8	991.8	991.2	990.5	989.8	989.2
137.5°	1039.0	1040.1	1041.1	1041.4	1041.0	1040.6	1040.1	1039.7
140°	1069.8	1070.7	1071.6	1071.8	1071.3	1070.9	1070.5	1070.0
142.5°	1099.0	1099.7	1100.4	1100.4	1099.8	1099.2	1098.6	1098.0
145°	1139.8	1140.2	1140.7	1140.9	1140.9	1140.9	1140.9	1140.9
147.5°	1176.3	1176.7	1177.2	1176.9	1175.9	1174.9	1173.8	1172.8
150°	1198.7	1199.1	1199.6	1199.4	1198.8	1198.1	1197.4	1196.8
152.5°	1218.5	1219.3	1220.1	1220.0	1219.0	1218.0	1217.0	1215.9
155°	1245.9	1247.0	1248.1	1248.0	1246.7	1245.4	1244.0	1242.7
157.5°	1269.7	1271.0	1272.4	1272.2	1270.4	1268.7	1267.0	1265.3
160°	1283.3	1284.6	1285.9	1285.8	1284.3	1282.7	1281.2	1279.6
162.5°	1295.6	1297.1	1298.6	1298.7	1297.3	1295.9	1294.6	1293.2
165°	1312.1	1313.9	1315.7	1315.8	1314.2	1312.7	1311.1	1309.6
167.5°	1324.9	1326.7	1328.4	1328.4	1326.7	1324.9	1323.1	1321.3
170°	1332.1	1333.9	1335.6	1335.6	1333.9	1332.1	1330.3	1328.5
172.5°	1336.9	1338.6	1340.4	1340.3	1338.4	1336.4	1334.5	1332.5
175°	1342.6	1344.2	1345.7	1345.6	1343.8	1342.1	1340.3	1338.5
177.5°	1344.7	1346.2	1347.6	1347.4	1345.6	1343.9	1342.1	1340.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5

(END OF REPORT)