

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: P332136-830

Luminaire Tested: **S123DIW-S560D1030U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332136-830
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: S123DIW-S560D1030U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6074.4 lumens
Efficiency: N/A
Efficacy: 134.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

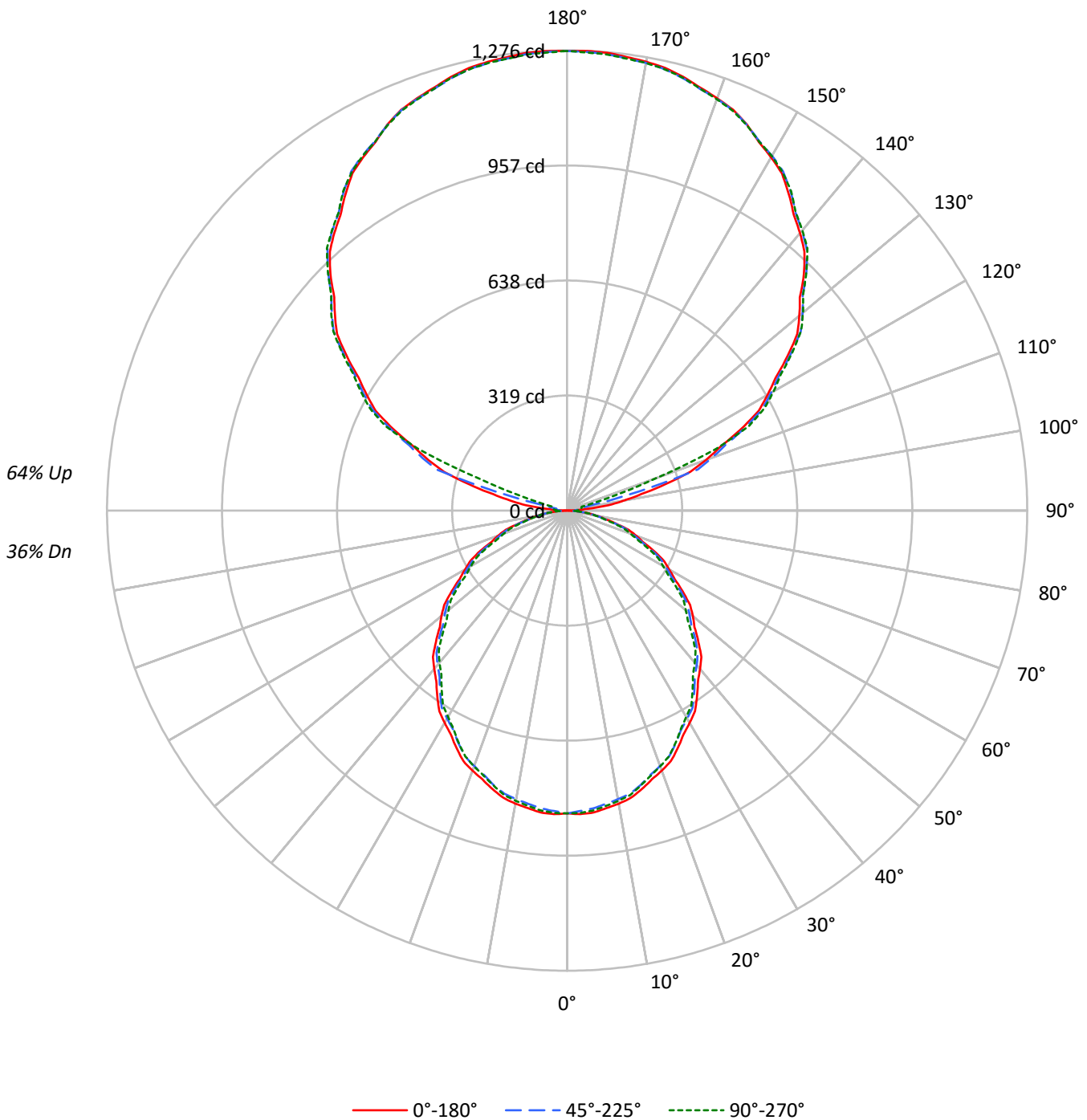
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	78	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	19	16
6	60	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9038	9038	9038
5°	9081	8956	9018
10°	9021	8878	8933
15°	8914	8778	8795
20°	8791	8635	8643
25°	8626	8464	8445
30°	8444	8274	8211
35°	8253	8073	7970
40°	8056	7852	7731
45°	7837	7649	7462
50°	7618	7400	7194
55°	7330	7141	6923
60°	7042	6837	6622
65°	6788	6510	6306
70°	6408	6134	5860
75°	5856	5644	5407
80°	5281	5058	5015
85°	4631	4458	4286



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	1.3
10°-20°	223.3	3.7
20°-30°	329.9	5.4
30°-40°	385.4	6.3
40°-50°	387.4	6.4
50°-60°	340.3	5.6
60°-70°	253.5	4.2
70°-80°	144.5	2.4
80°-90°	45.0	0.7
90°-100°	46.3	0.8
100°-110°	220.8	3.6
110°-120°	530.4	8.7
120°-130°	675.4	11.1
130°-140°	721.6	11.9
140°-150°	674.8	11.1
150°-160°	544.3	9.0
160°-170°	351.3	5.8
170°-180°	121.1	2.0
0°-30°	632.3	10.4
0°-40°	1017.7	16.8
0°-60°	1745.5	28.7
0°-90°	2188.5	36.0
90°-120°	797.5	13.1
90°-150°	2869.2	47.2
90°-180°	3886.0	64.0
0°-180°	6074.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	840	840	840	840	840	
5°	840	837	829	836	835	80
15°	800	797	788	793	789	225
25°	726	722	713	713	711	334
35°	628	624	614	610	606	393
45°	515	512	502	494	490	397
55°	391	389	380	373	369	350
65°	266	263	256	250	248	263
75°	141	138	136	132	130	151
85°	38	36	36	35	35	41
90°	1	11	23	26	28	5
95°	58	22	29	36	36	71
105°	282	287	207	49	42	299
115°	529	535	543	553	557	522
125°	746	753	757	759	761	666
135°	929	934	938	941	938	715
145°	1072	1078	1080	1082	1082	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	842.5	842.1	841.6	841.0	840.6	839.5	838.1	836.7	835.4	834.0	835.2
5°	840.4	839.6	838.8	838.0	837.2	835.9	834.2	832.4	830.7	828.9	830.5
7.5°	832.2	831.4	830.6	829.8	829.0	827.6	825.9	824.0	822.2	820.4	821.8
10°	825.3	824.4	823.7	822.8	822.1	820.6	818.5	816.4	814.4	812.3	813.7
12.5°	816.1	815.3	814.6	814.0	813.3	812.0	810.0	808.0	806.2	804.2	805.2
15°	799.9	799.4	798.7	798.1	797.4	796.1	794.0	791.9	789.8	787.7	789.0
17.5°	781.4	780.5	779.7	778.8	778.0	776.6	774.5	772.4	770.3	768.2	769.1
20°	767.5	766.6	765.5	764.6	763.6	762.1	760.1	758.0	755.8	753.8	754.4
22.5°	751.9	750.9	750.0	749.0	748.0	746.5	744.4	742.3	740.3	738.2	738.7
25°	726.3	725.4	724.4	723.5	722.5	721.0	718.9	716.8	714.7	712.7	712.8
27.5°	699.1	698.1	697.2	696.3	695.3	693.7	691.4	689.3	687.0	684.8	684.9
30°	679.4	678.6	677.8	677.0	676.2	674.7	672.4	670.1	668.0	665.7	665.7
32.5°	659.8	658.7	657.6	656.6	655.5	654.1	652.4	650.6	648.9	647.2	646.3
35°	628.1	627.2	626.2	625.3	624.3	622.7	620.7	618.6	616.5	614.4	613.5
37.5°	595.8	594.6	593.3	592.1	590.9	589.3	587.1	585.0	582.9	580.8	579.7
40°	573.3	572.3	571.4	570.4	569.4	567.8	565.5	563.4	561.1	558.8	557.5
42.5°	550.7	549.7	548.6	547.4	546.4	544.7	542.4	540.3	538.0	535.7	534.4
45°	514.8	514.2	513.5	512.8	512.2	510.9	508.8	506.7	504.6	502.5	500.6
47.5°	479.1	478.2	477.3	476.4	475.4	473.9	472.0	470.0	468.1	466.1	464.2
50°	454.9	454.0	453.3	452.4	451.7	450.3	448.1	446.0	443.9	441.9	440.1
52.5°	429.4	428.9	428.4	427.8	427.3	425.8	423.7	421.5	419.2	417.1	415.6
55°	390.6	390.4	390.3	390.1	389.9	388.8	386.7	384.7	382.6	380.5	378.7
57.5°	353.6	353.1	352.5	352.0	351.5	350.3	348.6	347.0	345.3	343.7	342.1
60°	327.1	326.9	326.8	326.6	326.4	325.4	323.5	321.5	319.6	317.6	316.2
62.5°	303.4	302.9	302.6	302.2	301.7	300.6	298.6	296.7	294.7	292.8	291.4
65°	266.5	265.6	264.9	264.0	263.3	262.0	260.4	258.8	257.2	255.6	254.3
67.5°	227.2	226.6	225.8	225.2	224.4	223.5	222.3	221.0	219.8	218.7	217.5
70°	203.6	202.6	201.7	200.8	199.7	198.8	197.8	196.9	195.9	194.9	193.8
72.5°	178.8	178.0	177.4	176.6	176.0	175.0	174.0	172.9	171.7	170.7	169.7
75°	140.8	140.2	139.5	138.8	138.3	137.7	137.1	136.7	136.2	135.7	135.0
77.5°	107.2	106.8	106.4	106.1	105.8	105.3	104.7	104.2	103.5	102.9	102.5
80°	85.2	84.7	84.3	83.8	83.2	82.8	82.6	82.2	81.9	81.6	81.4
82.5°	63.8	63.7	63.6	63.5	63.4	63.3	63.3	63.2	63.2	63.2	62.8
85°	37.5	37.2	36.9	36.6	36.3	36.1	36.1	36.1	36.1	36.1	35.8
87.5°	15.2	15.3	15.3	15.3	15.4	15.6	16.0	16.4	16.9	17.2	17.2
90°	0.9	3.0	5.2	7.3	9.3	11.8	14.5	17.2	20.0	22.7	23.6
92.5°	17.6	17.1	16.4	15.8	15.3	16.0	18.1	20.1	22.1	24.2	25.5
95°	57.8	49.1	40.5	31.9	23.3	20.1	22.4	24.7	27.1	29.3	30.8
97.5°	116.0	112.2	108.3	104.4	100.6	91.0	76.0	60.8	45.6	30.4	32.1
100°	159.9	164.2	168.4	172.6	176.8	162.5	129.7	96.9	64.1	31.2	32.9
102.5°	210.0	213.0	216.0	219.0	222.1	205.7	169.8	134.0	98.1	62.3	57.1
105°	282.1	284.5	286.7	289.1	291.3	283.0	264.1	245.2	226.3	207.4	170.1
107.5°	358.3	360.1	361.9	363.8	365.6	368.1	371.1	374.0	377.0	380.0	352.7
110°	409.0	410.7	412.4	414.1	415.7	417.7	420.0	422.4	424.6	427.0	420.0



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.4	458.9	460.4	462.0	463.5	465.4	467.7	470.0	472.4	474.7	474.8
115°	529.2	530.5	531.7	533.0	534.2	535.8	537.7	539.6	541.5	543.4	545.5
117.5°	598.7	600.2	601.8	603.3	604.9	606.1	607.2	608.1	609.1	610.0	611.7
120°	641.9	643.8	645.6	647.5	649.4	650.7	651.3	652.0	652.6	653.2	654.9
122.5°	685.8	687.3	688.9	690.4	692.0	693.1	694.0	694.7	695.6	696.4	697.6
125°	746.0	747.7	749.3	751.0	752.7	754.0	754.8	755.6	756.5	757.3	757.8
127.5°	804.3	806.0	807.7	809.4	811.1	812.4	813.4	814.5	815.4	816.4	817.1
130°	840.7	842.4	844.0	845.7	847.4	848.7	849.5	850.4	851.2	852.1	852.9
132.5°	875.5	877.2	878.8	880.5	882.2	883.4	884.1	884.8	885.4	886.1	886.9
135°	928.7	930.0	931.2	932.5	933.8	934.8	935.7	936.5	937.4	938.2	938.8
137.5°	974.1	975.7	977.3	978.9	980.5	981.6	982.0	982.5	983.0	983.4	984.4
140°	1004.5	1005.7	1007.0	1008.2	1009.5	1010.4	1011.1	1011.7	1012.3	1013.0	1013.8
142.5°	1032.5	1033.7	1035.0	1036.2	1037.6	1038.5	1039.1	1039.7	1040.4	1040.9	1041.7
145°	1071.7	1073.1	1074.6	1076.1	1077.5	1078.5	1078.9	1079.3	1079.8	1080.2	1080.6
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1115.2
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	839.7	839.7	839.7	839.7	839.7	839.7	839.7	839.7
2.5°	836.5	837.7	839.1	839.6	839.5	839.3	839.2	839.1
5°	832.1	833.7	835.3	835.9	835.6	835.3	835.0	834.6
7.5°	823.2	824.6	826.1	826.7	826.5	826.3	826.1	826.0
10°	815.1	816.6	818.0	818.6	818.3	817.9	817.7	817.3
12.5°	806.3	807.4	808.4	808.8	808.6	808.4	808.2	808.0
15°	790.3	791.5	792.9	793.0	792.0	791.1	790.1	789.2
17.5°	770.1	770.9	771.8	772.0	771.8	771.4	771.0	770.6
20°	755.1	755.7	756.3	756.4	755.9	755.4	755.0	754.5
22.5°	739.2	739.7	740.3	740.2	739.6	739.0	738.4	737.7
25°	712.9	713.1	713.2	713.1	712.7	712.2	711.6	711.1
27.5°	685.0	685.1	685.2	685.0	684.4	683.8	683.2	682.6
30°	665.7	665.7	665.7	665.2	664.0	662.9	661.8	660.6
32.5°	645.5	644.5	643.6	642.8	642.2	641.7	641.0	640.5
35°	612.5	611.5	610.6	609.7	608.9	608.1	607.3	606.5
37.5°	578.4	577.3	576.2	575.3	574.9	574.3	573.8	573.3
40°	556.3	555.0	553.7	552.7	552.0	551.5	550.8	550.2
42.5°	533.2	531.9	530.6	529.6	529.0	528.4	527.7	527.1
45°	498.7	496.7	494.8	493.4	492.7	491.8	491.1	490.2
47.5°	462.3	460.4	458.5	457.2	456.6	455.8	455.2	454.4
50°	438.4	436.6	434.8	433.5	432.4	431.5	430.6	429.6
52.5°	414.1	412.6	411.0	409.7	408.8	407.8	406.9	406.0
55°	376.9	375.2	373.4	372.1	371.4	370.5	369.8	368.9
57.5°	340.5	338.9	337.4	336.1	335.2	334.3	333.4	332.4
60°	314.8	313.4	311.9	310.8	310.0	309.2	308.4	307.6
62.5°	289.9	288.5	287.1	286.1	285.5	285.0	284.5	283.9
65°	253.0	251.8	250.4	249.6	249.1	248.6	248.2	247.6
67.5°	216.4	215.3	214.1	213.2	212.5	211.9	211.2	210.6
70°	192.7	191.6	190.5	189.5	188.7	187.8	187.1	186.2
72.5°	168.7	167.7	166.7	166.0	165.6	165.1	164.8	164.3
75°	134.1	133.4	132.5	131.9	131.4	130.9	130.4	130.0
77.5°	101.9	101.3	100.8	100.5	100.5	100.5	100.5	100.5
80°	81.2	81.1	81.0	80.9	80.9	80.9	80.9	80.9
82.5°	62.5	62.2	61.9	61.7	61.6	61.5	61.4	61.3
85°	35.4	35.2	34.8	34.7	34.7	34.7	34.7	34.7
87.5°	17.3	17.3	17.4	17.4	17.5	17.6	17.7	17.8
90°	24.4	25.3	26.1	26.7	27.1	27.5	28.0	28.4
92.5°	27.0	28.3	29.6	30.4	30.6	30.9	31.2	31.4
95°	32.3	33.7	35.3	36.0	36.0	36.0	36.0	36.0
97.5°	33.8	35.5	37.2	38.2	38.4	38.5	38.8	39.0
100°	34.6	36.3	38.0	38.9	39.1	39.3	39.6	39.8
102.5°	51.8	46.7	41.4	39.0	39.4	39.8	40.2	40.5
105°	132.9	95.6	58.3	40.0	40.4	40.8	41.2	41.7
107.5°	325.4	298.1	270.8	243.1	215.0	187.0	158.9	130.8
110°	413.1	406.1	399.2	380.7	350.6	320.5	290.4	260.3



TEST NUMBER: P332136-830

CATALOG NUMBER: S123DIW-S560D1030U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	474.9	475.0	475.1	472.0	465.7	459.4	453.0	446.7
115°	547.6	549.7	551.9	553.3	554.1	555.0	555.8	556.7
117.5°	613.4	615.1	616.8	617.7	617.8	618.0	618.2	618.4
120°	656.6	658.3	660.0	660.8	660.8	660.8	660.8	660.8
122.5°	698.7	699.9	701.1	701.8	701.9	702.1	702.3	702.5
125°	758.2	758.7	759.0	759.5	759.9	760.3	760.7	761.1
127.5°	817.7	818.4	819.2	819.3	818.8	818.4	818.0	817.6
130°	853.8	854.5	855.4	855.6	855.2	854.8	854.3	853.9
132.5°	887.8	888.6	889.5	889.6	889.0	888.4	887.9	887.2
135°	939.4	940.1	940.7	940.7	940.1	939.4	938.8	938.2
137.5°	985.4	986.5	987.5	987.8	987.3	986.9	986.5	986.1
140°	1014.6	1015.5	1016.3	1016.5	1016.2	1015.7	1015.3	1014.8
142.5°	1042.4	1043.0	1043.7	1043.7	1043.1	1042.5	1042.0	1041.3
145°	1081.0	1081.5	1081.9	1082.0	1082.0	1082.0	1082.0	1082.0
147.5°	1115.7	1116.1	1116.5	1116.3	1115.3	1114.3	1113.3	1112.4
150°	1136.9	1137.3	1137.7	1137.6	1137.0	1136.3	1135.8	1135.1
152.5°	1155.7	1156.5	1157.3	1157.2	1156.1	1155.2	1154.2	1153.3
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

(END OF REPORT)