

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: P331944

Luminaire Tested: **S123DIP-S560D1025U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331944  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D1025U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5842.6 lumens  
Efficiency: N/A  
Efficacy: 131.3 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

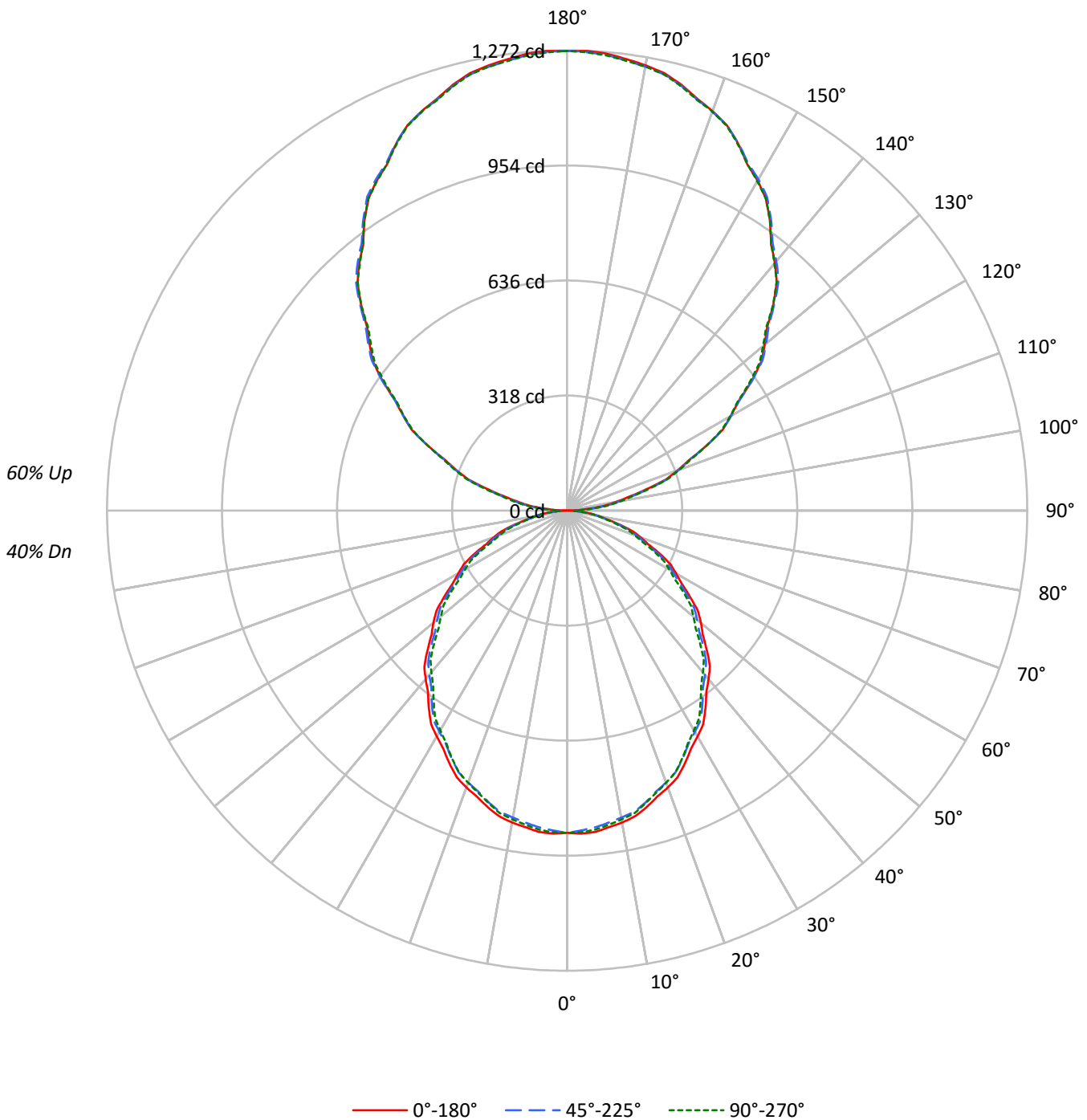
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	91	87	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	73	68	79	73	67	63	59	56	53	47	45	43	36	35	33	28
3	79	70	63	57	72	64	58	53	52	48	44	42	39	36	32	30	28	24
4	72	62	54	48	66	56	50	44	46	41	37	37	34	31	29	26	24	20
5	66	55	47	41	60	50	43	38	42	36	32	33	30	27	26	23	21	18
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	36	31	51	41	34	29	34	29	25	27	23	20	21	19	16	14
8	52	40	33	27	47	37	30	25	31	26	22	25	21	18	20	17	15	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	17	21	17	15	17	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9590	9590	9590
5°	9634	9502	9568
10°	9570	9419	9477
15°	9458	9313	9331
20°	9328	9160	9170
25°	9152	8980	8961
30°	8959	8779	8712
35°	8757	8566	8456
40°	8546	8331	8202
45°	8315	8115	7917
50°	8081	7850	7633
55°	7777	7576	7345
60°	7470	7255	7025
65°	7200	6907	6691
70°	6798	6508	6219
75°	6213	5989	5735
80°	5604	5368	5318
85°	4915	4730	4545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.9	1.4
10°-20°	237.0	4.1
20°-30°	350.0	6.0
30°-40°	408.9	7.0
40°-50°	411.1	7.0
50°-60°	361.1	6.2
60°-70°	269.0	4.6
70°-80°	153.3	2.6
80°-90°	47.8	0.8
90°-100°	82.8	1.4
100°-110°	247.8	4.2
110°-120°	421.4	7.2
120°-130°	554.3	9.5
130°-140°	623.0	10.7
140°-150°	612.4	10.5
150°-160°	515.6	8.8
160°-170°	343.2	5.9
170°-180°	120.2	2.1
0°-30°	670.9	11.5
0°-40°	1079.8	18.5
0°-60°	1851.9	31.7
0°-90°	2321.9	39.7
90°-120°	752.0	12.9
90°-150°	2541.8	43.5
90°-180°	3521.0	60.3
0°-180°	5842.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	891	891	891	891	891	
5°	892	888	879	887	886	84
15°	849	845	836	841	837	239
25°	771	766	756	757	754	355
35°	666	662	652	647	644	417
45°	546	543	533	524	520	421
55°	414	413	404	396	391	371
65°	283	279	271	265	263	279
75°	149	146	144	140	138	160
85°	40	38	38	37	37	44
90°	1	11	24	28	30	6
95°	59	66	74	78	78	66
105°	225	227	236	236	238	241
115°	424	427	425	426	425	420
125°	621	624	622	618	614	553
135°	806	811	810	807	805	621
145°	977	979	982	981	977	610
155°	1119	1119	1120	1123	1117	515
165°	1219	1216	1216	1221	1215	344
175°	1268	1264	1264	1269	1263	120
180°	1271	1271	1271	1271	1271	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	893.9	893.4	892.9	892.3	891.8	890.7	889.2	887.7	886.3	884.8	886.1
5°	891.6	890.8	889.9	889.1	888.2	886.9	885.0	883.1	881.3	879.4	881.1
7.5°	882.9	882.1	881.2	880.4	879.5	878.1	876.2	874.2	872.3	870.4	871.9
10°	875.6	874.7	873.9	873.0	872.2	870.6	868.4	866.2	864.0	861.8	863.3
12.5°	865.8	865.0	864.3	863.6	862.9	861.5	859.4	857.3	855.3	853.2	854.3
15°	848.7	848.1	847.4	846.7	846.0	844.6	842.4	840.2	837.9	835.7	837.1
17.5°	829.0	828.1	827.2	826.3	825.4	823.9	821.7	819.5	817.3	815.0	816.0
20°	814.3	813.3	812.2	811.2	810.2	808.6	806.4	804.2	801.9	799.7	800.4
22.5°	797.7	796.7	795.7	794.7	793.6	792.0	789.8	787.6	785.4	783.2	783.7
25°	770.6	769.6	768.6	767.6	766.5	764.9	762.7	760.5	758.3	756.1	756.2
27.5°	741.7	740.7	739.7	738.7	737.7	736.0	733.6	731.3	728.9	726.5	726.6
30°	720.8	720.0	719.1	718.3	717.4	715.8	713.4	711.0	708.7	706.3	706.3
32.5°	700.0	698.9	697.7	696.6	695.5	694.0	692.2	690.3	688.5	686.7	685.7
35°	666.4	665.4	664.4	663.4	662.4	660.7	658.5	656.3	654.1	651.9	650.9
37.5°	632.1	630.8	629.5	628.2	626.9	625.2	622.9	620.7	618.4	616.2	615.0
40°	608.2	607.2	606.2	605.2	604.1	602.4	600.0	597.7	595.3	592.9	591.5
42.5°	584.3	583.2	582.0	580.8	579.7	577.9	575.5	573.2	570.8	568.4	567.0
45°	546.2	545.5	544.8	544.1	543.4	542.0	539.8	537.6	535.4	533.1	531.1
47.5°	508.3	507.3	506.4	505.4	504.4	502.8	500.8	498.7	496.6	494.5	492.5
50°	482.6	481.7	480.9	480.0	479.2	477.7	475.4	473.2	471.0	468.8	466.9
52.5°	455.6	455.0	454.5	453.9	453.3	451.8	449.5	447.2	444.8	442.5	440.9
55°	414.4	414.2	414.1	413.9	413.7	412.5	410.3	408.1	405.9	403.7	401.8
57.5°	375.2	374.6	374.0	373.5	372.9	371.7	369.9	368.2	366.4	364.6	363.0
60°	347.0	346.8	346.7	346.5	346.3	345.2	343.2	341.1	339.1	337.0	335.5
62.5°	321.9	321.4	321.0	320.6	320.1	318.9	316.8	314.8	312.7	310.7	309.2
65°	282.7	281.8	281.0	280.1	279.3	278.0	276.3	274.6	272.9	271.2	269.8
67.5°	241.1	240.4	239.6	238.9	238.1	237.1	235.8	234.5	233.2	232.0	230.8
70°	216.0	215.0	214.0	213.0	211.9	210.9	209.9	208.9	207.8	206.8	205.6
72.5°	189.7	188.9	188.2	187.4	186.7	185.7	184.6	183.4	182.2	181.1	180.0
75°	149.4	148.7	148.0	147.3	146.7	146.1	145.5	145.0	144.5	144.0	143.2
77.5°	113.7	113.3	112.9	112.6	112.2	111.7	111.1	110.5	109.8	109.2	108.7
80°	90.4	89.9	89.4	88.9	88.3	87.9	87.6	87.2	86.9	86.6	86.4
82.5°	67.7	67.6	67.5	67.4	67.3	67.2	67.2	67.1	67.0	67.0	66.6
85°	39.8	39.5	39.2	38.8	38.5	38.3	38.3	38.3	38.3	38.3	38.0
87.5°	16.1	16.2	16.2	16.2	16.3	16.5	17.0	17.4	17.8	18.3	18.3
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°	24.2	25.7	27.2	28.7	30.2	31.8	33.4	35.0	36.7	38.3	39.0
95°	58.9	60.4	62.0	63.6	65.1	66.8	68.5	70.3	72.1	73.9	74.8
97.5°	104.6	105.8	106.9	108.1	109.2	110.4	111.7	113.0	114.3	115.6	116.6
100°	135.8	137.1	138.4	139.7	141.1	142.3	143.4	144.5	145.6	146.7	147.4
102.5°	171.7	172.5	173.3	174.1	174.9	176.0	177.5	178.9	180.4	181.9	182.5
105°	224.6	225.0	225.5	225.9	226.4	227.6	229.6	231.6	233.6	235.6	235.6
107.5°	286.1	286.4	286.6	286.9	287.2	287.7	288.5	289.3	290.1	290.9	291.6
110°	324.4	324.9	325.3	325.7	326.2	326.6	327.1	327.5	328.0	328.4	329.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	364.3	364.6	364.9	365.1	365.4	365.6	365.7	365.8	365.9	365.9	367.0
115°	424.2	424.9	425.6	426.2	426.9	427.0	426.6	426.1	425.7	425.2	425.5
117.5°	484.5	485.0	485.4	485.9	486.3	486.2	485.7	485.1	484.5	483.9	483.9
120°	522.1	523.4	524.7	526.1	527.4	527.5	526.4	525.3	524.2	523.1	522.8
122.5°	561.2	562.2	563.1	564.1	565.1	565.3	564.7	564.1	563.6	563.0	562.4
125°	620.9	621.6	622.2	622.9	623.5	623.7	623.2	622.8	622.3	621.9	621.0
127.5°	676.0	677.4	678.8	680.2	681.7	682.1	681.6	681.2	680.7	680.2	678.9
130°	712.7	714.5	716.3	718.0	719.8	720.4	719.7	719.0	718.4	717.7	716.8
132.5°	749.5	751.2	753.0	754.8	756.6	757.2	756.7	756.2	755.7	755.2	754.2
135°	805.6	806.9	808.2	809.5	810.9	811.4	811.2	811.0	810.8	810.5	809.7
137.5°	857.5	858.6	859.7	860.8	861.9	862.7	863.3	863.9	864.5	865.0	864.1
140°	893.4	894.5	895.6	896.7	897.8	898.5	898.7	898.9	899.2	899.4	899.2
142.5°	926.1	927.2	928.4	929.5	930.6	931.3	931.7	932.1	932.5	932.9	932.7
145°	977.2	977.7	978.1	978.6	979.0	979.6	980.2	980.9	981.6	982.2	982.0
147.5°	1022.0	1022.8	1023.6	1024.4	1025.2	1025.9	1026.5	1027.1	1027.7	1028.4	1028.4
150°	1053.1	1053.6	1054.0	1054.4	1054.9	1055.3	1055.8	1056.2	1056.7	1057.1	1057.1
152.5°	1078.7	1079.3	1079.9	1080.5	1081.1	1081.6	1081.9	1082.1	1082.4	1082.7	1083.0
155°	1119.0	1119.0	1119.0	1119.0	1119.0	1119.1	1119.3	1119.5	1119.8	1120.0	1120.9
157.5°	1153.3	1153.1	1152.8	1152.5	1152.3	1152.2	1152.4	1152.6	1152.8	1152.9	1153.9
160°	1174.9	1174.4	1174.0	1173.6	1173.1	1172.9	1172.9	1172.9	1172.9	1172.9	1174.0
162.5°	1194.1	1193.4	1192.8	1192.2	1191.6	1191.4	1191.5	1191.7	1191.9	1192.1	1193.2
165°	1218.8	1218.1	1217.5	1216.8	1216.2	1215.8	1215.8	1215.8	1215.8	1215.8	1217.1
167.5°	1238.6	1237.7	1236.8	1235.9	1235.0	1234.7	1234.9	1235.0	1235.2	1235.4	1236.8
170°	1249.8	1248.9	1248.0	1247.1	1246.2	1245.8	1245.8	1245.8	1245.8	1245.8	1247.3
172.5°	1258.5	1257.7	1256.8	1255.9	1255.0	1254.5	1254.5	1254.5	1254.5	1254.5	1255.9
175°	1267.7	1266.8	1265.9	1265.1	1264.2	1263.7	1263.7	1263.7	1263.7	1263.7	1265.1
177.5°	1271.5	1270.8	1270.1	1269.4	1268.7	1268.3	1268.3	1268.3	1268.3	1268.3	1269.4
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	887.5	888.8	890.2	890.8	890.7	890.5	890.4	890.3
5°	882.8	884.5	886.2	886.9	886.5	886.2	885.9	885.5
7.5°	873.4	874.9	876.5	877.1	876.9	876.7	876.5	876.3
10°	864.8	866.4	867.9	868.5	868.2	867.8	867.5	867.1
12.5°	855.4	856.6	857.7	858.1	857.9	857.7	857.5	857.3
15°	838.5	839.8	841.2	841.3	840.3	839.3	838.3	837.3
17.5°	817.0	817.9	818.9	819.1	818.8	818.4	818.0	817.6
20°	801.1	801.8	802.4	802.5	802.0	801.5	801.0	800.5
22.5°	784.3	784.8	785.4	785.3	784.7	784.0	783.4	782.7
25°	756.4	756.6	756.7	756.6	756.1	755.6	755.0	754.5
27.5°	726.8	726.9	727.0	726.8	726.1	725.5	724.8	724.2
30°	706.3	706.3	706.3	705.7	704.5	703.3	702.1	700.9
32.5°	684.8	683.8	682.8	682.0	681.4	680.8	680.1	679.5
35°	649.8	648.8	647.8	646.9	646.0	645.2	644.3	643.5
37.5°	613.7	612.5	611.3	610.4	609.9	609.3	608.8	608.2
40°	590.2	588.8	587.5	586.4	585.7	585.1	584.4	583.7
42.5°	565.7	564.3	562.9	561.9	561.2	560.6	559.9	559.2
45°	529.1	527.0	525.0	523.5	522.7	521.8	521.0	520.1
47.5°	490.5	488.5	486.5	485.1	484.4	483.6	482.9	482.1
50°	465.1	463.2	461.3	459.9	458.8	457.8	456.8	455.8
52.5°	439.3	437.7	436.1	434.7	433.7	432.7	431.7	430.7
55°	399.9	398.1	396.2	394.8	394.0	393.1	392.3	391.4
57.5°	361.3	359.6	358.0	356.6	355.6	354.7	353.7	352.7
60°	334.0	332.5	330.9	329.7	328.9	328.0	327.2	326.3
62.5°	307.6	306.1	304.6	303.5	302.9	302.4	301.8	301.2
65°	268.4	267.1	265.7	264.8	264.3	263.8	263.3	262.7
67.5°	229.6	228.4	227.2	226.2	225.5	224.8	224.1	223.4
70°	204.4	203.3	202.1	201.0	200.2	199.3	198.5	197.6
72.5°	179.0	177.9	176.9	176.1	175.7	175.2	174.8	174.3
75°	142.3	141.5	140.6	139.9	139.4	138.9	138.4	137.9
77.5°	108.1	107.5	106.9	106.6	106.6	106.6	106.6	106.6
80°	86.2	86.0	85.9	85.8	85.8	85.8	85.8	85.8
82.5°	66.3	66.0	65.7	65.5	65.4	65.2	65.1	65.0
85°	37.6	37.3	36.9	36.8	36.8	36.8	36.8	36.8
87.5°	18.4	18.4	18.4	18.5	18.6	18.7	18.8	18.9
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	39.8	40.5	41.2	41.4	41.1	40.9	40.6	40.3
95°	75.6	76.5	77.4	77.9	77.9	77.9	77.9	77.9
97.5°	117.6	118.7	119.7	120.1	120.1	120.0	119.9	119.8
100°	148.1	148.7	149.4	150.0	150.4	150.8	151.3	151.7
102.5°	183.2	183.9	184.5	184.8	184.7	184.6	184.6	184.5
105°	235.6	235.6	235.6	235.8	236.2	236.7	237.1	237.6
107.5°	292.3	293.0	293.7	293.9	293.7	293.4	293.1	292.9
110°	330.2	331.1	332.0	332.2	331.7	331.3	330.9	330.4





TEST NUMBER: P331944

CATALOG NUMBER: S123DIP-S560D1025U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.1	369.1	370.2	370.7	370.6	370.5	370.4	370.3
115°	425.7	425.9	426.1	426.1	425.9	425.7	425.5	425.2
117.5°	483.8	483.8	483.8	483.4	482.8	482.2	481.6	480.9
120°	522.6	522.4	522.2	521.8	521.4	521.0	520.5	520.1
122.5°	561.8	561.3	560.7	560.1	559.5	558.8	558.2	557.6
125°	620.1	619.2	618.3	617.4	616.6	615.7	614.8	613.9
127.5°	677.7	676.5	675.2	674.1	673.1	672.0	671.0	670.0
130°	715.9	715.0	714.2	712.9	711.4	709.8	708.3	706.7
132.5°	753.1	752.1	751.0	749.9	748.7	747.5	746.3	745.1
135°	808.8	807.9	807.0	806.3	805.9	805.4	805.0	804.6
137.5°	863.2	862.3	861.3	860.4	859.6	858.7	857.9	857.1
140°	898.9	898.7	898.5	897.6	896.1	894.5	893.0	891.4
142.5°	932.5	932.3	932.0	931.3	930.1	928.9	927.7	926.5
145°	981.8	981.6	981.3	980.8	979.9	979.0	978.1	977.2
147.5°	1028.4	1028.4	1028.4	1027.7	1026.4	1025.0	1023.7	1022.4
150°	1057.1	1057.1	1057.1	1056.4	1055.1	1053.8	1052.4	1051.1
152.5°	1083.4	1083.7	1084.1	1083.7	1082.5	1081.4	1080.2	1079.1
155°	1121.8	1122.7	1123.5	1123.2	1121.7	1120.1	1118.5	1117.0
157.5°	1154.8	1155.7	1156.7	1156.5	1155.3	1154.0	1152.8	1151.5
160°	1175.1	1176.2	1177.3	1177.4	1176.6	1175.7	1174.8	1173.9
162.5°	1194.3	1195.4	1196.5	1196.3	1194.9	1193.5	1192.1	1190.7
165°	1218.5	1219.8	1221.1	1221.0	1219.5	1217.9	1216.4	1214.8
167.5°	1238.1	1239.5	1240.9	1240.9	1239.5	1238.1	1236.8	1235.4
170°	1248.9	1250.4	1252.0	1252.0	1250.4	1248.9	1247.3	1245.8
172.5°	1257.3	1258.7	1260.0	1260.0	1258.4	1256.9	1255.3	1253.7
175°	1266.4	1267.7	1269.1	1268.9	1267.4	1265.8	1264.3	1262.7
177.5°	1270.5	1271.5	1272.6	1272.5	1271.3	1270.0	1268.8	1267.5
180°	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7	1270.7

(END OF REPORT)