

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: P331940

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331940  
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: S123DIP-S560D1025U835-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6463.9 lumens  
Efficiency: N/A  
Efficacy: 145.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

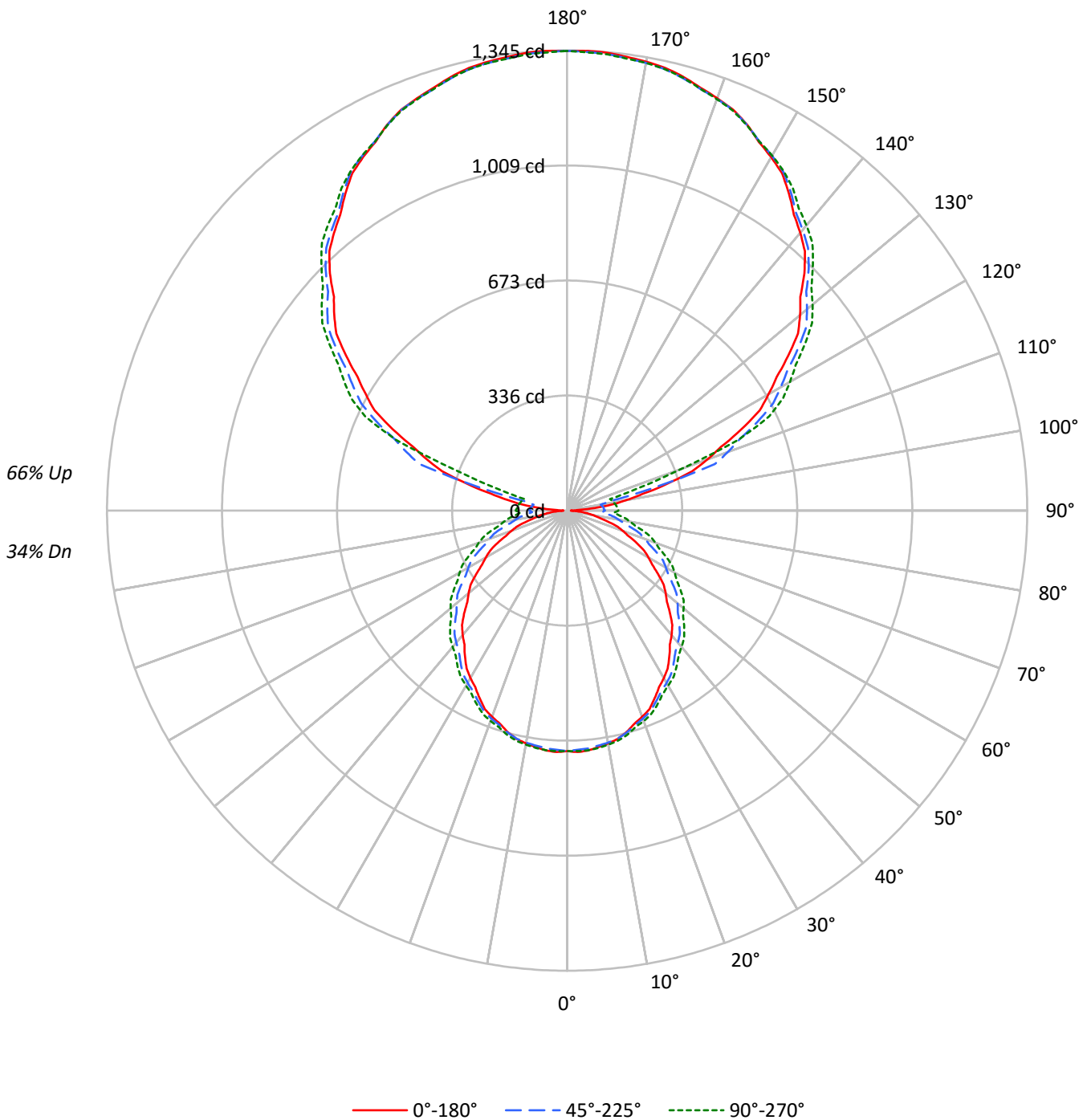
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331940

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

### Luminous Intensity Polar Plot





TEST NUMBER: P331940

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

**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	74	74	74	57	57	57	41	41	41	34
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	56	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	32	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	30	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	18	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

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

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



TEST NUMBER: P331940

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

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.0
10°-20°	190.0	2.9
20°-30°	284.2	4.4
30°-40°	339.4	5.3
40°-50°	355.1	5.5
50°-60°	333.2	5.2
60°-70°	278.3	4.3
70°-80°	199.1	3.1
80°-90°	122.5	1.9
90°-100°	123.4	1.9
100°-110°	287.6	4.4
110°-120°	595.7	9.2
120°-130°	733.0	11.3
130°-140°	770.2	11.9
140°-150°	713.5	11.0
150°-160°	573.9	8.9
160°-170°	370.4	5.7
170°-180°	127.6	2.0
0°-30°	540.9	8.4
0°-40°	880.3	13.6
0°-60°	1568.7	24.3
0°-90°	2168.7	33.6
90°-120°	1006.7	15.6
90°-150°	3223.3	49.9
90°-180°	4295.0	66.4
0°-180°	6463.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	11	59	110	139	150	10
95°	69	62	107	136	145	82
105°	304	328	276	130	130	322
115°	562	578	614	641	652	555
125°	789	798	823	840	848	704
135°	981	986	998	1014	1016	755
145°	1131	1137	1139	1147	1150	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	



TEST NUMBER: P331940

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

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.6	29.5	38.4	47.3	56.3	65.3	74.6	83.9	93.1	102.4	108.3
90°	11.0	21.5	32.1	42.6	53.2	64.3	75.8	87.4	99.0	110.5	117.2
92.5°	27.9	34.8	41.7	48.6	55.5	64.3	75.1	85.8	96.5	107.2	114.3
95°	69.3	66.9	64.4	61.9	59.5	63.7	74.4	85.2	96.0	106.8	113.6
97.5°	129.9	131.8	133.7	135.6	137.5	134.5	126.5	118.5	110.5	102.5	109.3
100°	175.6	185.5	195.3	205.2	215.1	206.7	179.9	153.1	126.4	99.6	106.3
102.5°	227.7	235.8	243.9	252.0	260.1	249.1	219.0	188.8	158.7	128.6	127.9
105°	303.6	310.1	316.6	323.2	329.7	326.6	314.0	301.3	288.7	276.0	241.6
107.5°	382.9	388.3	393.8	399.2	404.6	412.4	422.5	432.6	442.7	452.7	428.5
110°	435.8	440.6	445.5	450.3	455.1	462.2	471.4	480.7	489.9	499.2	496.3



TEST NUMBER: P331940

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

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	486.9	491.0	495.1	499.2	503.4	509.9	518.9	527.9	536.8	545.8	550.2
115°	561.8	565.2	568.5	571.9	575.3	581.0	589.2	597.3	605.4	613.5	619.8
117.5°	634.9	637.8	640.7	643.6	646.5	651.3	658.1	664.9	671.7	678.4	684.3
120°	679.8	682.7	685.5	688.3	691.2	695.8	702.0	708.3	714.6	720.9	726.6
122.5°	726.1	728.2	730.3	732.4	734.5	738.6	744.8	751.0	757.2	763.3	768.4
125°	788.8	790.6	792.4	794.2	795.9	799.7	805.6	811.4	817.2	823.0	827.0
127.5°	850.3	851.9	853.5	855.1	856.7	860.1	865.3	870.4	875.6	880.7	884.8
130°	888.7	890.3	891.9	893.5	895.1	898.0	902.3	906.6	910.9	915.2	919.3
132.5°	924.8	926.5	928.3	930.0	931.7	934.3	937.8	941.2	944.6	948.1	952.0
135°	980.7	981.9	983.0	984.2	985.4	987.3	990.1	992.8	995.6	998.4	1002.1
137.5°	1028.5	1030.0	1031.6	1033.1	1034.7	1036.2	1037.8	1039.3	1040.8	1042.4	1046.1
140°	1059.8	1061.1	1062.5	1063.8	1065.1	1066.4	1067.6	1068.7	1069.9	1071.1	1074.5
142.5°	1089.3	1090.5	1091.7	1092.9	1094.1	1095.1	1095.9	1096.6	1097.4	1098.2	1101.2
145°	1130.7	1132.1	1133.4	1134.8	1136.2	1137.1	1137.6	1138.0	1138.4	1138.9	1140.7
147.5°	1168.8	1169.9	1170.9	1171.9	1172.9	1173.6	1174.1	1174.5	1175.0	1175.4	1176.3
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



TEST NUMBER: P331940

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	114.3	120.3	126.2	130.1	131.9	133.7	135.5	137.3
90°	123.9	130.5	137.2	141.6	143.8	145.9	148.1	150.2
92.5°	121.4	128.4	135.5	139.9	141.8	143.6	145.4	147.3
95°	120.4	127.3	134.1	138.4	140.1	141.8	143.5	145.2
97.5°	116.2	123.0	129.9	134.2	136.2	138.1	140.0	141.9
100°	113.0	119.7	126.4	130.7	132.7	134.6	136.5	138.4
102.5°	127.2	126.5	125.8	126.5	128.6	130.7	132.8	134.9
105°	207.1	172.6	138.1	121.8	123.8	125.8	127.7	129.7
107.5°	404.3	380.1	355.8	329.7	301.6	273.5	245.4	217.3
110°	493.4	490.5	487.6	471.0	440.6	410.3	379.9	349.6





TEST NUMBER: P331940

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

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	554.7	559.1	563.5	563.1	557.9	552.7	547.5	542.3
115°	626.1	632.4	638.7	643.0	645.3	647.5	649.8	652.0
117.5°	690.1	695.9	701.7	705.4	706.9	708.4	709.9	711.4
120°	732.3	738.0	743.7	747.1	748.3	749.5	750.7	751.9
122.5°	773.4	778.4	783.4	786.6	788.0	789.4	790.7	792.1
125°	831.1	835.1	839.1	841.9	843.6	845.2	846.8	848.5
127.5°	888.9	893.0	897.0	899.4	900.2	900.9	901.6	902.3
130°	923.4	927.5	931.7	934.0	934.6	935.2	935.8	936.3
132.5°	956.0	960.0	964.0	966.3	966.8	967.3	967.9	968.4
135°	1005.8	1009.5	1013.3	1015.2	1015.4	1015.6	1015.8	1016.0
137.5°	1049.9	1053.7	1057.4	1059.5	1059.9	1060.3	1060.7	1061.1
140°	1078.0	1081.4	1084.8	1086.8	1087.2	1087.6	1088.0	1088.4
142.5°	1104.2	1107.1	1110.1	1111.7	1112.0	1112.2	1112.4	1112.7
145°	1142.5	1144.3	1146.1	1147.4	1148.0	1148.7	1149.4	1150.1
147.5°	1177.1	1178.0	1178.8	1179.0	1178.6	1178.2	1177.8	1177.4
150°	1198.7	1199.1	1199.6	1199.6	1199.3	1199.0	1198.6	1198.3
152.5°	1218.5	1219.3	1220.1	1220.1	1219.1	1218.2	1217.2	1216.2
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)