

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: P332058

Luminaire Tested: **S123DIP-S1165D585U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332058  
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-S1165D585U835-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6863.1 lumens  
Efficiency: N/A  
Efficacy: 124.6 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-Direct

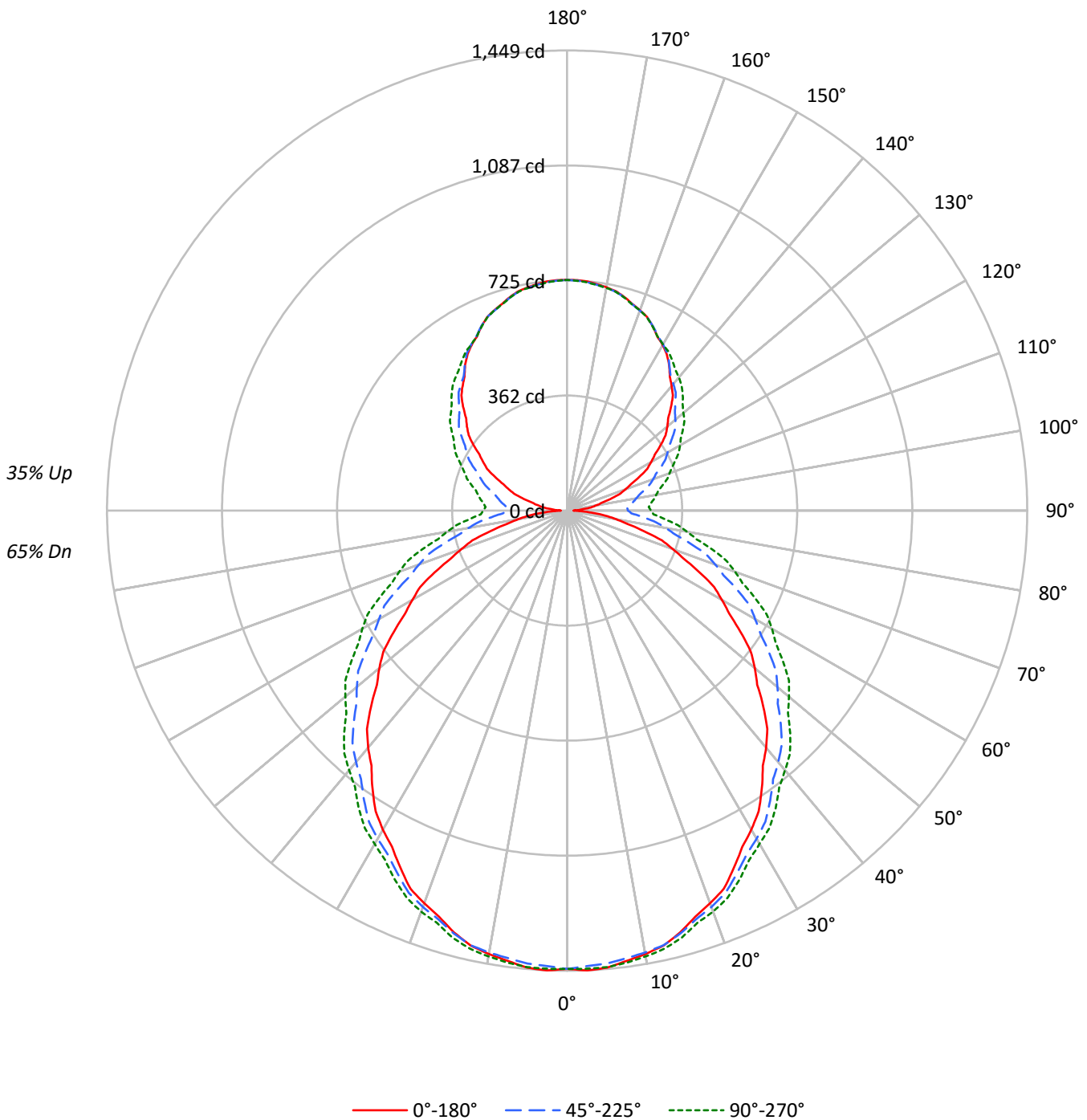
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
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	50	30	10	50	30	10	0														
RCR																																						
0	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65																				
1	100	95	90	86	93	89	85	81	78	75	72	68	66	64	59	58	56	52																				
2	90	82	75	69	84	77	71	66	68	63	59	59	56	52	52	49	46	42																				
3	82	72	64	57	77	67	60	54	59	54	49	52	48	44	45	42	39	35																				
4	75	63	55	48	70	60	52	46	53	46	41	46	41	37	40	36	33	30																				
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26																				
6	63	50	42	36	59	48	40	34	42	36	31	37	32	28	33	28	25	22																				
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	25	22	20																				
8	54	41	33	28	51	39	32	26	35	29	24	31	26	22	27	23	20	18																				
9	51	38	30	25	47	36	29	24	32	26	22	29	23	20	25	21	18	16																				
10	47	35	27	22	44	33	26	21	30	24	20	26	21	18	23	19	16	14																				

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

	0°	45°	90°
0°	15532	15532	15532
5°	15581	15141	15150
10°	15441	14792	14718
15°	15242	14397	14247
20°	14958	13944	13729
25°	14607	13423	13185
30°	14248	12956	12632
35°	13844	12460	12191
40°	13459	12010	11719
45°	13033	11577	11342
50°	12611	11149	10926
55°	12146	10713	10553
60°	11692	10267	10169
65°	11230	9793	9712
70°	10529	9260	9244
75°	9643	8650	8768
80°	8626	8052	8224
85°	7681	7639	7911



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.8	2.0
10°-20°	390.0	5.7
20°-30°	583.2	8.5
30°-40°	696.5	10.1
40°-50°	728.7	10.6
50°-60°	683.9	10.0
60°-70°	571.2	8.3
70°-80°	408.7	6.0
80°-90°	245.9	3.6
90°-100°	200.2	2.9
100°-110°	253.9	3.7
110°-120°	315.8	4.6
120°-130°	359.6	5.2
130°-140°	375.3	5.5
140°-150°	354.1	5.2
150°-160°	294.6	4.3
160°-170°	196.1	2.9
170°-180°	68.7	1.0
0°-30°	1110.0	16.2
0°-40°	1806.5	26.3
0°-60°	3219.1	46.9
0°-90°	4444.7	64.8
90°-120°	770.0	11.2
90°-150°	1858.9	27.1
90°-180°	2418.0	35.2
0°-180°	6863.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1445	1441	1432	1444	1443	137
15°	1375	1380	1379	1393	1393	387
25°	1242	1257	1262	1282	1283	572
35°	1069	1094	1114	1137	1144	668
45°	874	912	951	980	993	674
55°	666	719	775	816	830	597
65°	461	522	591	636	654	455
75°	250	324	402	452	473	267
85°	77	156	239	290	308	81
90°	21	104	191	245	264	16
95°	51	117	198	247	265	51
105°	141	182	252	295	312	150
115°	250	273	326	363	377	248
125°	360	364	406	435	445	321
135°	463	466	482	507	515	357
145°	560	560	561	573	577	349
155°	639	639	640	642	638	294
165°	696	695	695	698	694	196
175°	724	722	722	725	722	69
180°	726	726	726	726	726	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1449.3	1448.5	1447.6	1446.8	1445.9	1444.4	1442.2	1439.9	1437.7	1435.5	1437.7
5°	1444.6	1443.9	1443.2	1442.5	1441.8	1440.4	1438.3	1436.2	1434.1	1432.0	1434.8
7.5°	1430.4	1430.6	1430.7	1430.9	1431.0	1430.1	1428.0	1426.0	1424.0	1421.9	1425.4
10°	1417.9	1418.6	1419.3	1420.0	1420.7	1420.1	1418.4	1416.6	1414.9	1413.1	1416.6
12.5°	1402.8	1403.7	1404.7	1405.7	1406.7	1406.6	1405.4	1404.2	1403.0	1401.8	1405.0
15°	1375.4	1376.5	1377.5	1378.6	1379.6	1380.0	1379.6	1379.3	1378.9	1378.6	1382.1
17.5°	1340.8	1342.9	1345.0	1347.1	1349.2	1350.2	1350.1	1349.9	1349.8	1349.6	1352.8
20°	1315.7	1317.8	1319.9	1322.0	1324.1	1325.5	1326.2	1326.9	1327.6	1328.3	1331.4
22.5°	1289.3	1291.4	1293.5	1295.6	1297.7	1299.2	1300.2	1301.2	1302.1	1303.1	1307.1
25°	1241.8	1245.3	1248.8	1252.3	1255.8	1258.0	1259.1	1260.1	1261.2	1262.2	1266.8
27.5°	1194.0	1198.0	1202.0	1206.0	1209.9	1213.1	1215.3	1217.5	1219.8	1222.0	1225.9
30°	1160.1	1164.6	1169.1	1173.7	1178.2	1181.9	1184.7	1187.5	1190.3	1193.1	1197.3
32.5°	1122.3	1127.4	1132.5	1137.6	1142.7	1147.1	1150.7	1154.4	1158.0	1161.6	1166.1
35°	1068.9	1074.5	1080.1	1085.7	1091.3	1096.3	1100.9	1105.4	1109.9	1114.5	1119.7
37.5°	1012.3	1018.6	1024.9	1031.2	1037.5	1043.4	1049.0	1054.6	1060.2	1065.8	1071.7
40°	974.6	980.9	987.2	993.4	999.7	1006.4	1013.4	1020.3	1027.3	1034.3	1040.3
42.5°	933.1	940.8	948.5	956.1	963.8	971.3	978.6	985.8	993.1	1000.4	1006.9
45°	874.0	882.4	890.7	899.1	907.5	916.1	924.8	933.5	942.3	951.0	957.6
47.5°	812.0	821.5	831.0	840.6	850.1	859.8	869.8	879.8	889.8	899.8	907.2
50°	771.8	781.6	791.4	801.1	810.9	821.2	832.1	842.9	853.7	864.5	872.6
52.5°	729.1	739.4	749.7	760.1	770.4	781.6	793.5	805.4	817.4	829.3	837.7
55°	666.5	678.0	689.5	701.1	712.6	724.6	737.2	749.8	762.4	775.0	784.4
57.5°	605.5	617.5	629.5	641.5	653.6	666.5	680.2	694.0	707.7	721.5	731.0
60°	562.7	575.3	587.9	600.5	613.0	626.5	640.8	655.1	669.5	683.8	693.6
62.5°	522.5	535.4	548.2	561.1	573.9	587.9	603.1	618.2	633.4	648.6	658.3
65°	460.6	474.2	487.8	501.4	515.1	529.6	544.9	560.3	575.7	591.0	601.5
67.5°	397.7	412.2	426.6	441.1	455.5	470.6	486.2	501.9	517.5	533.2	544.6
70°	353.7	368.7	383.7	398.7	413.8	429.7	446.4	463.2	480.0	496.7	507.9
72.5°	313.4	328.5	343.5	358.5	373.5	389.7	407.0	424.3	441.7	459.0	470.5
75°	249.9	266.4	282.8	299.2	315.6	332.5	350.0	367.5	384.9	402.4	413.9
77.5°	194.6	211.2	227.7	244.3	260.8	277.9	295.5	313.1	330.7	348.3	360.5
80°	155.6	172.7	189.9	207.0	224.1	241.7	259.9	278.1	296.2	314.4	326.3
82.5°	121.7	139.1	156.5	173.9	191.2	209.2	227.6	246.1	264.5	282.9	294.8
85°	77.0	94.5	112.0	129.4	146.9	164.9	183.4	201.9	220.4	238.9	250.8
87.5°	41.9	59.6	77.2	94.9	112.5	130.4	148.6	166.7	184.9	203.0	215.0
90°	21.0	39.4	57.8	76.2	94.5	113.5	132.9	152.4	171.9	191.3	203.7
92.5°	33.0	49.3	65.6	81.9	98.2	115.6	134.0	152.5	171.0	189.5	201.5
95°	50.9	65.5	80.0	94.5	109.0	125.3	143.4	161.6	179.7	197.8	209.2
97.5°	75.2	88.1	101.1	114.0	127.0	142.0	159.1	176.2	193.3	210.4	221.3
100°	91.7	103.7	115.6	127.5	139.5	153.8	170.5	187.2	203.9	220.6	231.1
102.5°	111.0	121.5	132.0	142.5	153.1	166.6	183.3	199.9	216.5	233.1	243.4
105°	140.9	149.6	158.2	166.8	175.5	187.9	204.0	220.2	236.3	252.5	262.3
107.5°	174.2	181.4	188.7	196.0	203.3	214.3	229.0	243.7	258.4	273.1	282.9
110°	194.8	201.3	207.9	214.4	221.0	231.4	245.6	259.8	274.0	288.3	297.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.6	222.9	228.3	233.6	238.9	248.3	261.8	275.2	288.7	302.2	311.6
115°	250.3	254.8	259.4	264.0	268.6	277.0	289.3	301.7	314.0	326.3	334.8
117.5°	284.4	287.3	290.1	292.9	295.8	302.9	314.4	325.9	337.4	348.8	357.1
120°	304.6	307.1	309.6	312.1	314.6	321.3	332.2	343.1	354.0	364.9	372.8
122.5°	327.0	328.4	329.9	331.4	332.8	338.9	349.5	360.2	370.8	381.4	388.9
125°	359.5	359.9	360.3	360.6	361.0	366.1	376.0	385.9	395.8	405.7	412.5
127.5°	391.0	391.4	391.9	392.4	392.8	397.1	405.2	413.3	421.4	429.5	435.7
130°	412.0	412.6	413.3	414.0	414.6	418.3	424.9	431.5	438.1	444.7	450.8
132.5°	431.7	432.7	433.6	434.5	435.5	438.6	443.9	449.2	454.5	459.9	465.6
135°	463.4	463.9	464.3	464.7	465.1	467.2	470.9	474.6	478.3	482.0	487.8
137.5°	492.8	493.1	493.5	493.9	494.2	495.6	498.1	500.6	503.1	505.6	510.6
140°	512.1	512.7	513.3	514.0	514.6	515.5	516.7	517.9	519.0	520.2	525.3
142.5°	530.8	531.1	531.5	531.8	532.2	532.6	533.0	533.5	533.9	534.3	538.9
145°	560.0	559.9	559.8	559.7	559.6	559.7	560.1	560.5	560.9	561.3	563.9
147.5°	584.0	584.4	584.9	585.3	585.8	586.2	586.6	586.9	587.3	587.6	588.5
150°	601.8	602.0	602.3	602.5	602.8	603.0	603.3	603.5	603.8	604.0	604.0
152.5°	616.4	616.7	617.1	617.4	617.8	618.0	618.2	618.3	618.5	618.6	618.8
155°	639.4	639.4	639.4	639.4	639.4	639.5	639.6	639.7	639.9	640.0	640.5
157.5°	659.0	658.9	658.7	658.6	658.4	658.4	658.5	658.6	658.7	658.8	659.3
160°	671.3	671.1	670.8	670.6	670.3	670.2	670.2	670.2	670.2	670.2	670.8
162.5°	682.3	681.9	681.6	681.2	680.9	680.8	680.9	681.0	681.1	681.2	681.8
165°	696.4	696.1	695.7	695.3	694.9	694.7	694.7	694.7	694.7	694.7	695.5
167.5°	707.7	707.2	706.7	706.2	705.7	705.5	705.6	705.7	705.8	705.9	706.7
170°	714.1	713.6	713.1	712.6	712.1	711.8	711.8	711.8	711.8	711.8	712.7
172.5°	719.1	718.6	718.1	717.6	717.1	716.9	716.9	716.9	716.9	716.9	717.7
175°	724.4	723.9	723.4	722.9	722.4	722.1	722.1	722.1	722.1	722.1	722.9
177.5°	726.6	726.2	725.8	725.3	724.9	724.7	724.7	724.7	724.7	724.7	725.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0	1443.0
2.5°	1439.9	1442.2	1444.4	1445.4	1445.1	1444.8	1444.5	1444.3
5°	1437.6	1440.4	1443.2	1444.4	1444.1	1443.7	1443.4	1443.0
7.5°	1428.9	1432.4	1435.9	1437.5	1437.0	1436.6	1436.2	1435.8
10°	1420.1	1423.6	1427.1	1428.5	1427.8	1427.1	1426.4	1425.7
12.5°	1408.3	1411.5	1414.7	1415.9	1415.2	1414.5	1413.8	1413.1
15°	1385.5	1389.0	1392.5	1394.1	1393.8	1393.4	1393.1	1392.7
17.5°	1355.9	1359.1	1362.2	1363.5	1363.1	1362.6	1362.1	1361.6
20°	1334.5	1337.7	1340.8	1342.6	1342.9	1343.3	1343.6	1344.0
22.5°	1311.1	1315.1	1319.0	1320.9	1320.7	1320.5	1320.3	1320.1
25°	1271.3	1275.9	1280.4	1282.7	1282.7	1282.7	1282.7	1282.7
27.5°	1229.8	1233.7	1237.6	1239.7	1240.0	1240.3	1240.6	1240.9
30°	1201.5	1205.7	1209.8	1211.9	1211.9	1211.9	1211.9	1211.9
32.5°	1170.6	1175.1	1179.5	1182.2	1183.0	1183.9	1184.7	1185.5
35°	1125.0	1130.2	1135.4	1138.8	1140.2	1141.6	1143.0	1144.3
37.5°	1077.6	1083.6	1089.5	1093.0	1094.2	1095.3	1096.4	1097.5
40°	1046.2	1052.1	1058.1	1061.7	1063.1	1064.5	1065.9	1067.3
42.5°	1013.4	1019.9	1026.4	1030.6	1032.5	1034.5	1036.4	1038.4
45°	964.3	970.9	977.6	982.3	985.1	987.9	990.7	993.4
47.5°	914.7	922.2	929.7	934.5	936.6	938.8	941.0	943.1
50°	880.6	888.7	896.7	901.9	904.4	906.8	909.3	911.7
52.5°	846.0	854.3	862.6	868.3	871.3	874.3	877.3	880.3
55°	793.8	803.2	812.7	818.8	821.6	824.4	827.2	830.0
57.5°	740.5	750.0	759.5	765.9	769.2	772.5	775.8	779.0
60°	703.3	713.1	722.9	729.7	733.6	737.4	741.2	745.1
62.5°	668.1	677.9	687.7	694.4	697.9	701.5	705.1	708.6
65°	612.0	622.5	633.0	639.9	643.4	646.9	650.4	653.9
67.5°	556.1	567.6	579.0	586.2	589.2	592.1	595.0	598.0
70°	519.1	530.3	541.4	548.8	552.3	555.8	559.2	562.7
72.5°	481.9	493.4	504.8	512.3	515.8	519.3	522.8	526.3
75°	425.5	437.0	448.5	456.4	460.6	464.8	469.0	473.1
77.5°	372.6	384.8	397.0	404.6	407.9	411.1	414.3	417.5
80°	338.1	350.0	361.9	369.6	373.1	376.6	380.1	383.5
82.5°	306.7	318.6	330.4	338.1	341.6	345.1	348.6	352.1
85°	262.7	274.6	286.4	294.1	297.6	301.1	304.6	308.1
87.5°	227.0	238.9	250.9	258.7	262.2	265.8	269.3	272.8
90°	216.1	228.5	240.8	248.9	252.7	256.4	260.2	263.9
92.5°	213.5	225.5	237.5	245.0	248.1	251.1	254.2	257.3
95°	220.5	231.8	243.2	250.6	254.1	257.6	261.1	264.6
97.5°	232.3	243.3	254.3	261.5	265.0	268.4	271.9	275.3
100°	241.6	252.1	262.6	269.8	273.5	277.3	281.0	284.8
102.5°	253.6	263.8	274.1	280.9	284.3	287.8	291.2	294.7
105°	272.1	281.8	291.6	298.2	301.6	305.0	308.4	311.8
107.5°	292.6	302.4	312.2	318.5	321.4	324.4	327.3	330.2
110°	307.4	317.0	326.6	332.7	335.2	337.8	340.3	342.8





TEST NUMBER: P332058

CATALOG NUMBER: S123DIP-S1165D585U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.0	330.4	339.8	346.0	349.0	352.1	355.1	358.1
115°	343.3	351.8	360.3	365.9	368.6	371.3	373.9	376.6
117.5°	365.4	373.7	382.0	387.3	389.7	392.1	394.4	396.8
120°	380.7	388.6	396.5	401.6	403.8	406.0	408.2	410.4
122.5°	396.3	403.7	411.1	415.9	418.0	420.1	422.2	424.3
125°	419.3	426.1	433.0	437.4	439.3	441.2	443.2	445.1
127.5°	441.9	448.2	454.4	458.4	460.2	461.9	463.7	465.5
130°	457.0	463.1	469.2	472.9	474.1	475.3	476.5	477.7
132.5°	471.4	477.1	482.8	486.6	488.3	489.9	491.6	493.3
135°	493.6	499.4	505.1	508.8	510.3	511.8	513.3	514.8
137.5°	515.6	520.6	525.6	528.7	530.0	531.2	532.5	533.8
140°	530.4	535.5	540.7	543.6	544.5	545.4	546.2	547.1
142.5°	543.5	548.0	552.6	555.4	556.4	557.5	558.6	559.6
145°	566.6	569.3	571.9	573.7	574.6	575.5	576.4	577.3
147.5°	589.3	590.1	591.0	591.6	592.1	592.6	593.1	593.6
150°	604.0	604.0	604.0	604.0	604.0	603.9	603.8	603.8
152.5°	619.1	619.3	619.5	619.3	618.8	618.3	617.7	617.2
155°	641.0	641.5	642.0	641.8	640.9	640.0	639.2	638.3
157.5°	659.9	660.4	660.9	660.8	660.1	659.4	658.7	658.0
160°	671.5	672.1	672.7	672.8	672.3	671.8	671.3	670.8
162.5°	682.4	683.1	683.7	683.6	682.8	682.0	681.2	680.4
165°	696.3	697.0	697.8	697.7	696.8	695.9	695.1	694.2
167.5°	707.5	708.3	709.1	709.1	708.3	707.5	706.7	705.9
170°	713.6	714.5	715.4	715.4	714.5	713.6	712.7	711.8
172.5°	718.4	719.2	720.0	720.0	719.1	718.2	717.3	716.4
175°	723.6	724.4	725.2	725.1	724.2	723.3	722.4	721.5
177.5°	726.0	726.6	727.2	727.1	726.4	725.7	725.0	724.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1

(END OF REPORT)