

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: P332048-830

Luminaire Tested: **S123DIP-S1165D365U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332048-830  
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: S123DIP-S1165D365U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5938.9 lumens  
Efficiency: N/A  
Efficacy: 119.3 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-Direct

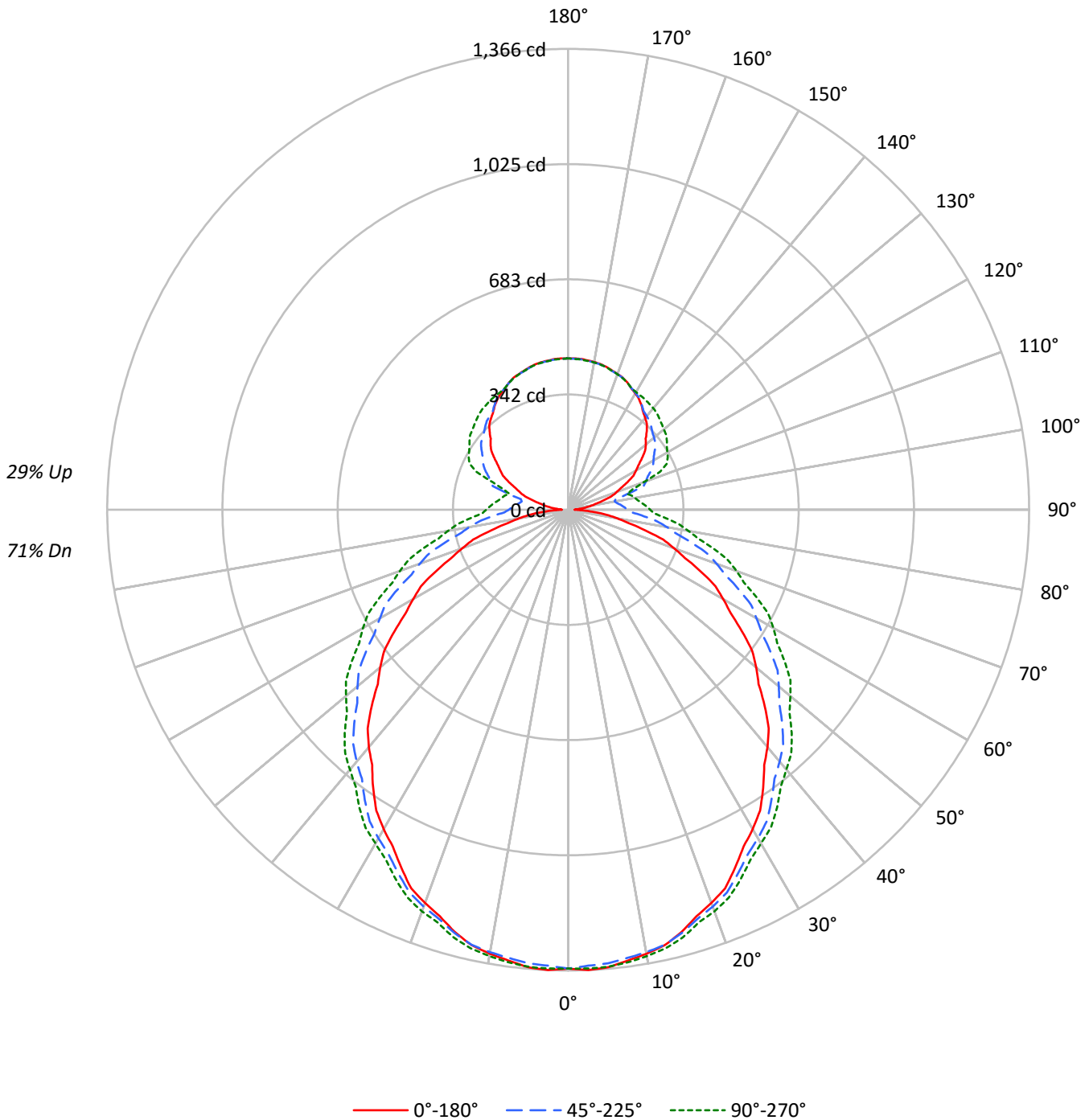
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332048-830

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	71
1	101	96	91	87	95	91	87	83	81	78	75	72	70	67	64	62	60	56
2	91	83	76	70	86	78	72	67	70	65	61	63	59	55	55	52	50	46
3	83	72	64	58	78	69	61	55	61	55	51	55	50	46	49	45	42	38
4	76	64	55	49	71	61	53	47	54	48	43	49	43	39	43	39	36	32
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	34	31	28
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	31	27	24
7	59	46	38	32	56	44	36	30	40	33	28	36	30	26	32	27	24	21
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	17
10	48	35	28	22	45	34	27	22	31	25	20	28	23	19	25	21	17	16

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

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.9	2.2
10°-20°	367.5	6.2
20°-30°	549.7	9.3
30°-40°	656.5	11.1
40°-50°	686.9	11.6
50°-60°	644.6	10.9
60°-70°	538.3	9.1
70°-80°	385.2	6.5
80°-90°	231.0	3.9
90°-100°	160.4	2.7
100°-110°	183.6	3.1
110°-120°	257.3	4.3
120°-130°	278.0	4.7
130°-140°	272.0	4.6
140°-150°	241.3	4.1
150°-160°	191.5	3.2
160°-170°	123.6	2.1
170°-180°	42.6	0.7
0°-30°	1046.2	17.6
0°-40°	1702.7	28.7
0°-60°	3034.1	51.1
0°-90°	4188.6	70.5
90°-120°	601.3	10.1
90°-150°	1392.7	23.4
90°-180°	1750.0	29.5
0°-180°	5938.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	96	175	225	243	14
95°	37	83	157	203	220	38
105°	111	150	184	168	181	117
115°	194	215	270	307	322	191
125°	267	272	314	344	357	239
135°	330	331	348	374	382	254
145°	378	379	380	392	398	237
155°	415	415	415	416	415	191
165°	438	437	437	439	437	124
175°	448	447	447	449	447	43
180°	448	448	448	448	448	



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CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.5	56.0	72.6	89.1	105.7	122.4	139.4	156.4	173.3	190.4	201.6
90°	19.6	36.5	53.3	70.2	87.1	104.4	122.2	139.9	157.7	175.4	186.9
92.5°	24.2	38.6	53.0	67.3	81.6	97.5	114.7	132.0	149.2	166.5	177.9
95°	36.6	46.5	56.3	66.1	75.9	89.3	106.1	123.1	140.1	157.0	167.8
97.5°	55.3	65.6	75.8	86.1	96.2	106.4	116.5	126.6	136.7	146.8	157.1
100°	69.7	81.6	93.7	105.7	117.7	125.5	129.1	132.7	136.3	139.9	150.1
102.5°	86.1	96.6	107.1	117.6	128.2	134.6	136.9	139.1	141.5	143.7	151.2
105°	111.1	119.8	128.6	137.2	146.0	154.1	161.6	169.1	176.5	184.1	180.2
107.5°	136.1	143.5	150.8	158.3	165.6	176.5	191.0	205.5	220.0	234.4	233.7
110°	152.8	159.3	165.8	172.3	178.9	189.1	203.1	217.1	231.0	245.1	251.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.8	175.2	180.6	186.1	191.4	200.9	214.3	227.8	241.3	254.7	263.1
115°	193.6	198.0	202.4	206.8	211.1	219.6	232.1	244.7	257.2	269.7	278.3
117.5°	217.7	220.7	223.7	226.7	229.7	236.9	248.4	259.9	271.4	282.8	291.2
120°	231.8	234.0	236.4	238.7	241.0	247.7	258.8	269.8	281.0	292.0	300.2
122.5°	247.2	248.6	250.0	251.4	252.8	258.8	269.5	280.0	290.7	301.3	309.1
125°	266.9	267.5	268.1	268.7	269.3	274.5	284.4	294.2	304.1	313.9	320.9
127.5°	287.4	287.7	287.9	288.2	288.5	292.8	301.0	309.2	317.5	325.7	332.5
130°	300.2	300.5	300.8	301.0	301.2	304.8	311.7	318.6	325.5	332.3	338.9
132.5°	311.3	311.8	312.4	312.8	313.4	316.4	321.9	327.4	332.9	338.4	344.7
135°	329.7	329.8	329.9	330.1	330.2	332.2	336.1	340.0	343.9	347.9	354.0
137.5°	345.3	345.7	346.0	346.3	346.6	347.8	350.1	352.2	354.5	356.7	362.2
140°	354.9	355.3	355.7	356.2	356.7	357.5	358.6	359.9	361.1	362.3	367.5
142.5°	364.8	364.9	365.0	365.2	365.4	365.7	366.2	366.6	367.0	367.4	372.1
145°	378.5	378.7	378.9	379.1	379.3	379.5	379.6	379.8	379.8	380.0	382.8
147.5°	390.0	390.4	390.7	391.1	391.3	391.6	391.8	391.9	392.1	392.2	393.1
150°	398.0	398.2	398.4	398.7	398.9	399.1	399.3	399.4	399.5	399.6	399.8
152.5°	405.2	405.3	405.4	405.5	405.6	405.8	405.8	405.9	406.0	406.0	406.3
155°	415.4	415.2	415.0	414.9	414.7	414.7	414.8	414.8	414.9	415.0	415.4
157.5°	423.2	423.2	423.2	423.1	423.1	423.1	423.0	422.9	422.8	422.8	423.2
160°	428.0	427.9	427.8	427.7	427.7	427.6	427.5	427.4	427.4	427.3	427.7
162.5°	432.5	432.3	432.2	432.0	431.8	431.6	431.5	431.5	431.4	431.3	431.8
165°	438.0	437.7	437.5	437.3	437.1	437.0	436.9	436.8	436.7	436.7	437.2
167.5°	442.2	442.0	441.7	441.4	441.0	440.9	440.9	440.9	440.9	440.9	441.5
170°	444.6	444.3	444.0	443.7	443.5	443.3	443.3	443.3	443.3	443.3	443.9
172.5°	446.2	445.9	445.5	445.2	444.8	444.7	444.7	444.8	444.9	444.9	445.5
175°	448.3	447.9	447.5	447.2	446.9	446.7	446.8	446.9	446.9	447.0	447.5
177.5°	448.8	448.6	448.3	448.0	447.6	447.5	447.6	447.6	447.7	447.8	448.3
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	212.8	224.1	235.4	242.6	246.0	249.3	252.6	255.9
90°	198.4	209.9	221.4	228.8	232.2	235.7	239.1	242.6
92.5°	189.3	200.7	212.1	219.3	222.4	225.6	228.7	231.8
95°	178.4	189.2	199.9	206.9	210.2	213.5	216.8	220.1
97.5°	167.6	178.0	188.3	195.2	198.6	202.0	205.4	208.7
100°	160.1	170.3	180.5	187.2	190.6	194.0	197.3	200.7
102.5°	158.6	166.1	173.5	178.9	182.4	185.8	189.2	192.7
105°	176.3	172.4	168.5	168.1	171.3	174.4	177.5	180.6
107.5°	232.9	232.1	231.3	227.4	220.5	213.5	206.5	199.5
110°	257.3	263.3	269.5	268.6	260.6	252.7	244.8	236.8





TEST NUMBER: P332048-830

CATALOG NUMBER: S123DIP-S1165D365U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	271.4	279.7	288.0	292.6	293.2	293.9	294.5	295.2
115°	287.0	295.7	304.3	310.1	313.0	315.9	318.9	321.8
117.5°	299.6	308.0	316.5	322.1	324.6	327.3	329.9	332.5
120°	308.4	316.5	324.7	329.9	332.2	334.5	336.9	339.1
122.5°	316.8	324.5	332.2	337.2	339.6	342.0	344.3	346.7
125°	328.0	335.1	342.1	346.9	349.3	351.8	354.2	356.7
127.5°	339.3	346.0	352.8	357.2	359.3	361.4	363.4	365.6
130°	345.4	352.0	358.5	362.8	364.6	366.4	368.3	370.0
132.5°	351.0	357.3	363.5	367.7	369.8	371.8	373.8	375.9
135°	360.1	366.3	372.4	376.3	377.7	379.1	380.5	381.9
137.5°	367.8	373.3	378.9	382.4	383.9	385.4	386.9	388.4
140°	372.8	378.1	383.2	386.6	388.1	389.6	391.1	392.6
142.5°	376.7	381.4	386.1	389.1	390.5	391.9	393.4	394.8
145°	385.6	388.3	391.2	393.2	394.5	395.9	397.2	398.5
147.5°	394.1	395.0	396.0	396.9	397.8	398.5	399.4	400.2
150°	400.0	400.1	400.3	400.6	401.0	401.4	401.9	402.3
152.5°	406.6	406.9	407.2	407.2	407.0	406.7	406.5	406.3
155°	415.8	416.1	416.5	416.4	416.0	415.6	415.1	414.6
157.5°	423.7	424.1	424.6	424.5	424.0	423.4	422.7	422.2
160°	428.2	428.7	429.1	429.0	428.6	428.0	427.5	427.0
162.5°	432.3	432.8	433.3	433.4	432.9	432.4	432.0	431.5
165°	437.8	438.5	439.0	439.0	438.6	438.0	437.5	437.0
167.5°	442.1	442.7	443.3	443.3	442.7	442.1	441.5	440.9
170°	444.5	445.1	445.6	445.6	445.1	444.5	443.9	443.3
172.5°	446.1	446.7	447.2	447.2	446.6	445.9	445.3	444.6
175°	448.0	448.6	449.0	449.0	448.5	447.8	447.2	446.7
177.5°	448.7	449.2	449.7	449.6	449.0	448.5	447.8	447.2
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3

(END OF REPORT)