

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: P331961

Luminaire Tested: **S123DIP-S775D365U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331961  
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-S775D365U835-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4620.5 lumens  
Efficiency: N/A  
Efficacy: 132.0 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-Direct

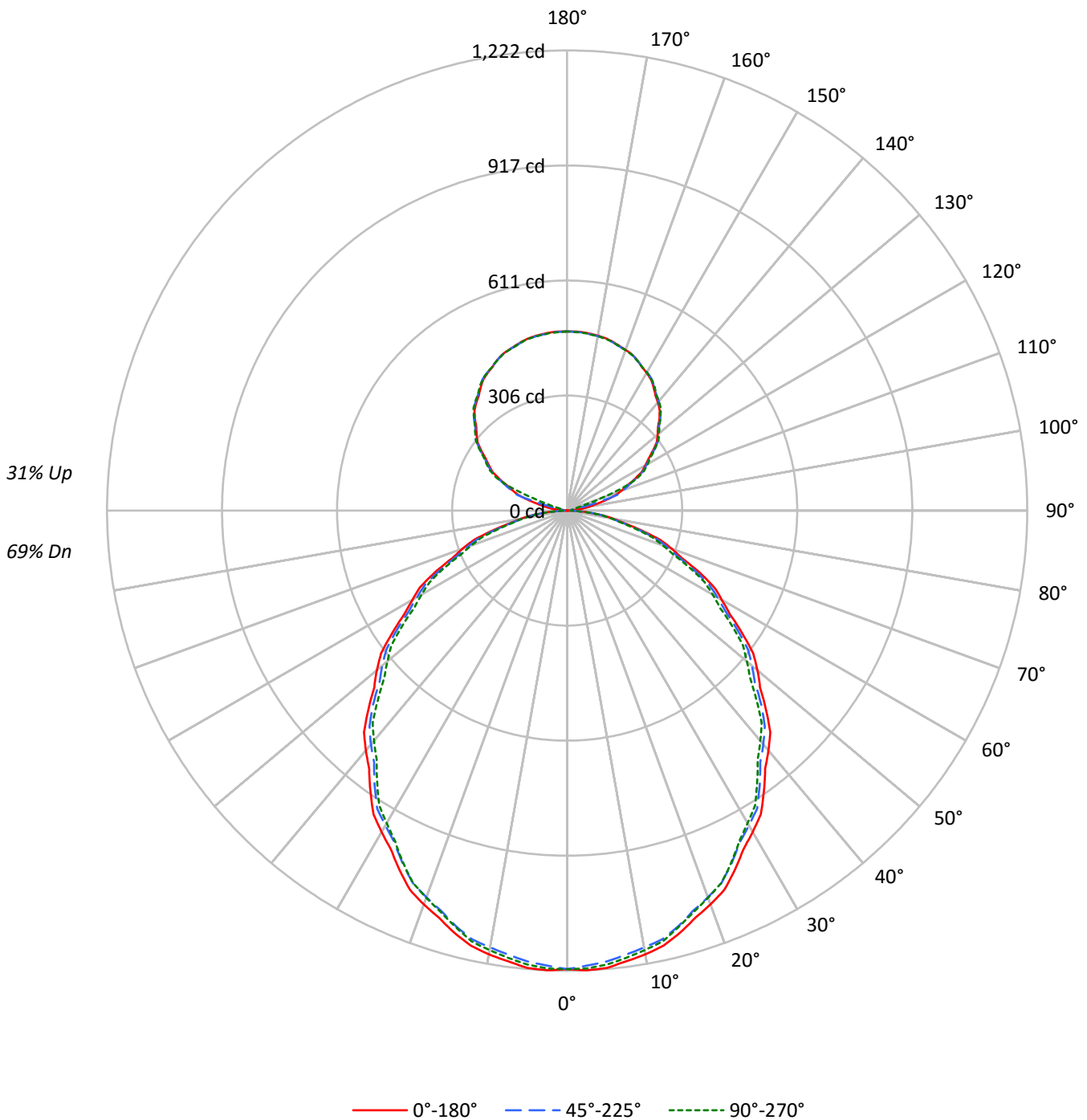
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	69
1	102	97	93	90	96	92	89	85	82	79	77	73	71	69	65	63	62	58
2	93	85	79	73	87	80	75	70	72	68	64	64	61	58	57	54	52	48
3	85	75	67	61	80	71	64	58	63	58	54	57	52	49	50	47	44	41
4	77	66	58	52	73	63	55	50	56	50	46	51	46	42	45	41	38	35
5	71	59	51	44	67	56	49	43	51	44	39	45	40	36	41	36	33	30
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	33	29	27
7	61	48	40	34	57	46	38	33	41	35	31	37	32	28	34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	24	32	26	23	29	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22	29	24	21	26	22	19	17

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

	0°	45°	90°
0°	13108	13108	13108
5°	13169	12988	13078
10°	13081	12875	12955
15°	12929	12730	12754
20°	12749	12521	12534
25°	12511	12275	12250
30°	12246	11999	11908
35°	11971	11709	11557
40°	11682	11387	11212
45°	11365	11094	10823
50°	11047	10731	10433
55°	10631	10355	10042
60°	10211	9918	9604
65°	9841	9442	9146
70°	9294	8897	8500
75°	8492	8189	7839
80°	7662	7333	7271
85°	6719	6472	6212



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.7	2.5
10°-20°	323.9	7.0
20°-30°	478.4	10.4
30°-40°	558.9	12.1
40°-50°	561.9	12.2
50°-60°	493.6	10.7
60°-70°	367.7	8.0
70°-80°	209.5	4.5
80°-90°	61.5	1.3
90°-100°	17.3	0.4
100°-110°	82.4	1.8
110°-120°	198.0	4.3
120°-130°	252.1	5.5
130°-140°	269.3	5.8
140°-150°	251.9	5.5
150°-160°	203.2	4.4
160°-170°	131.1	2.8
170°-180°	45.2	1.0
0°-30°	917.1	19.8
0°-40°	1475.9	31.9
0°-60°	2531.4	54.8
0°-90°	3170.0	68.6
90°-120°	297.7	6.4
90°-150°	1071.0	23.2
90°-180°	1450.0	31.4
0°-180°	4620.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1219	1213	1202	1212	1210	115
15°	1160	1155	1142	1150	1144	327
25°	1053	1047	1034	1034	1031	485
35°	911	904	891	885	880	570
45°	747	742	729	717	711	576
55°	566	565	552	541	535	507
65°	386	381	371	363	359	381
75°	204	200	197	192	188	218
85°	54	52	52	50	50	60
90°	0	4	8	10	11	4
95°	22	8	11	13	13	27
105°	105	107	77	18	16	112
115°	198	200	203	206	208	195
125°	278	281	283	283	284	249
135°	347	349	350	351	350	267
145°	400	402	403	404	404	250
155°	441	440	440	442	440	203
165°	465	464	463	466	464	131
175°	476	474	474	476	474	45
180°	476	476	476	476	476	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1221.9	1221.2	1220.5	1219.7	1219.0	1217.6	1215.5	1213.5	1211.4	1209.4	1211.2
5°	1218.8	1217.6	1216.5	1215.3	1214.1	1212.3	1209.7	1207.2	1204.6	1202.0	1204.4
7.5°	1206.9	1205.7	1204.5	1203.4	1202.2	1200.3	1197.6	1195.0	1192.3	1189.7	1191.8
10°	1196.8	1195.6	1194.5	1193.3	1192.2	1190.1	1187.0	1184.0	1181.0	1178.0	1180.1
12.5°	1183.4	1182.4	1181.5	1180.5	1179.5	1177.6	1174.8	1171.9	1169.1	1166.2	1167.8
15°	1160.2	1159.2	1158.3	1157.4	1156.4	1154.5	1151.4	1148.4	1145.4	1142.4	1144.2
17.5°	1133.1	1131.9	1130.7	1129.5	1128.3	1126.2	1123.2	1120.1	1117.1	1114.1	1115.4
20°	1113.0	1111.6	1110.3	1108.9	1107.5	1105.2	1102.2	1099.2	1096.2	1093.1	1094.1
22.5°	1090.4	1089.0	1087.6	1086.2	1084.8	1082.6	1079.6	1076.6	1073.6	1070.5	1071.3
25°	1053.4	1052.0	1050.6	1049.2	1047.8	1045.6	1042.5	1039.5	1036.5	1033.5	1033.7
27.5°	1013.8	1012.4	1011.1	1009.7	1008.4	1006.1	1002.8	999.6	996.3	993.0	993.2
30°	985.3	984.1	983.0	981.8	980.6	978.4	975.2	971.9	968.7	965.4	965.4
32.5°	956.8	955.3	953.7	952.2	950.7	948.7	946.1	943.6	941.1	938.6	937.3
35°	911.0	909.6	908.2	906.8	905.4	903.2	900.1	897.1	894.1	891.1	889.7
37.5°	864.0	862.3	860.5	858.7	857.0	854.6	851.5	848.4	845.3	842.3	840.6
40°	831.4	830.0	828.6	827.2	825.8	823.5	820.2	817.0	813.7	810.4	808.6
42.5°	798.7	797.1	795.5	794.0	792.4	790.0	786.7	783.4	780.2	776.9	775.1
45°	746.6	745.6	744.7	743.8	742.8	740.9	737.8	734.8	731.8	728.8	726.0
47.5°	694.8	693.5	692.1	690.8	689.4	687.3	684.5	681.7	678.8	676.0	673.2
50°	659.7	658.5	657.3	656.2	655.0	652.9	649.9	646.9	643.8	640.8	638.3
52.5°	622.8	622.0	621.2	620.4	619.6	617.6	614.4	611.2	608.0	604.8	602.6
55°	566.5	566.2	566.0	565.8	565.5	563.9	560.9	557.9	554.8	551.8	549.3
57.5°	512.9	512.1	511.3	510.5	509.7	508.1	505.7	503.2	500.8	498.4	496.1
60°	474.3	474.1	473.9	473.6	473.4	471.9	469.1	466.3	463.5	460.7	458.6
62.5°	440.0	439.4	438.8	438.2	437.6	435.9	433.1	430.3	427.5	424.7	422.6
65°	386.4	385.2	384.0	382.9	381.7	380.0	377.6	375.3	373.0	370.7	368.8
67.5°	329.6	328.6	327.6	326.5	325.5	324.1	322.4	320.6	318.8	317.1	315.4
70°	295.3	293.9	292.5	291.1	289.7	288.3	286.9	285.5	284.1	282.7	281.1
72.5°	259.3	258.2	257.2	256.2	255.2	253.9	252.3	250.7	249.1	247.5	246.1
75°	204.2	203.2	202.3	201.4	200.5	199.6	198.9	198.2	197.5	196.9	195.7
77.5°	155.4	154.9	154.4	153.9	153.3	152.7	151.8	151.0	150.2	149.3	148.5
80°	123.6	122.9	122.2	121.5	120.8	120.2	119.7	119.3	118.8	118.3	118.1
82.5°	92.6	92.4	92.3	92.1	92.0	91.9	91.8	91.7	91.6	91.5	91.1
85°	54.4	54.0	53.5	53.1	52.6	52.4	52.4	52.4	52.4	52.4	51.9
87.5°	21.8	21.4	21.0	20.6	20.2	20.1	20.1	20.1	20.1	20.1	20.0
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	6.6	6.4	6.1	5.9	5.7	6.0	6.7	7.5	8.3	9.0	9.5
95°	21.6	18.3	15.1	11.9	8.7	7.5	8.4	9.2	10.1	11.0	11.5
97.5°	43.3	41.9	40.4	39.0	37.5	34.0	28.3	22.7	17.0	11.4	12.0
100°	59.7	61.3	62.9	64.4	66.0	60.7	48.4	36.2	23.9	11.7	12.3
102.5°	78.4	79.5	80.6	81.8	82.9	76.8	63.4	50.0	36.6	23.3	21.3
105°	105.3	106.2	107.0	107.9	108.8	105.7	98.6	91.5	84.5	77.4	63.5
107.5°	133.7	134.4	135.1	135.8	136.5	137.4	138.5	139.6	140.7	141.8	131.6
110°	152.7	153.3	153.9	154.5	155.2	155.9	156.8	157.6	158.5	159.4	156.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.7	171.3	171.9	172.4	173.0	173.7	174.6	175.5	176.3	177.2	177.2
115°	197.5	198.0	198.5	198.9	199.4	200.0	200.7	201.4	202.1	202.8	203.6
117.5°	223.5	224.1	224.6	225.2	225.8	226.3	226.6	227.0	227.4	227.7	228.3
120°	239.6	240.3	241.0	241.7	242.4	242.9	243.1	243.4	243.6	243.8	244.5
122.5°	256.0	256.6	257.1	257.7	258.3	258.7	259.0	259.3	259.6	259.9	260.4
125°	278.5	279.1	279.7	280.3	281.0	281.4	281.8	282.1	282.4	282.7	282.9
127.5°	300.2	300.9	301.5	302.1	302.7	303.2	303.6	304.0	304.4	304.7	305.0
130°	313.8	314.4	315.0	315.7	316.3	316.8	317.1	317.4	317.7	318.0	318.3
132.5°	326.8	327.4	328.1	328.7	329.3	329.7	330.0	330.3	330.5	330.8	331.1
135°	346.7	347.1	347.6	348.1	348.5	348.9	349.2	349.6	349.9	350.2	350.4
137.5°	363.6	364.2	364.8	365.4	366.0	366.4	366.6	366.7	366.9	367.1	367.5
140°	374.9	375.4	375.9	376.3	376.8	377.2	377.4	377.6	377.9	378.1	378.4
142.5°	385.4	385.9	386.3	386.8	387.3	387.6	387.9	388.1	388.3	388.6	388.8
145°	400.0	400.6	401.1	401.7	402.2	402.6	402.7	402.9	403.0	403.2	403.4
147.5°	413.8	414.2	414.5	414.9	415.2	415.5	415.7	415.8	416.0	416.1	416.3
150°	422.3	422.5	422.7	423.0	423.2	423.4	423.6	423.7	423.9	424.0	424.2
152.5°	429.9	430.0	430.1	430.2	430.3	430.5	430.5	430.6	430.7	430.8	431.1
155°	440.7	440.5	440.3	440.2	440.0	440.0	440.1	440.1	440.2	440.3	440.7
157.5°	449.0	449.0	449.0	448.9	448.9	448.9	448.8	448.7	448.6	448.6	449.0
160°	454.1	454.0	453.9	453.8	453.8	453.7	453.6	453.5	453.5	453.4	453.8
162.5°	458.9	458.7	458.5	458.3	458.1	457.9	457.8	457.8	457.7	457.6	458.1
165°	464.7	464.4	464.2	464.0	463.7	463.6	463.5	463.4	463.3	463.3	463.9
167.5°	469.2	468.9	468.6	468.3	467.9	467.8	467.8	467.8	467.8	467.8	468.4
170°	471.7	471.4	471.1	470.8	470.5	470.3	470.3	470.3	470.3	470.3	471.0
172.5°	473.4	473.1	472.7	472.3	471.9	471.8	471.8	471.9	472.0	472.0	472.7
175°	475.6	475.2	474.8	474.5	474.1	473.9	474.0	474.1	474.1	474.2	474.8
177.5°	476.2	475.9	475.6	475.3	474.9	474.8	474.9	474.9	475.0	475.1	475.6
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1213.1	1215.0	1216.8	1217.7	1217.5	1217.3	1217.1	1216.9
5°	1206.7	1209.0	1211.4	1212.3	1211.8	1211.4	1210.9	1210.4
7.5°	1193.9	1196.0	1198.1	1199.0	1198.7	1198.4	1198.1	1197.9
10°	1182.2	1184.2	1186.3	1187.2	1186.7	1186.2	1185.8	1185.3
12.5°	1169.3	1170.8	1172.4	1173.0	1172.7	1172.4	1172.2	1171.9
15°	1146.1	1147.9	1149.8	1150.0	1148.6	1147.2	1145.9	1144.5
17.5°	1116.7	1118.0	1119.3	1119.7	1119.2	1118.7	1118.2	1117.7
20°	1095.0	1095.9	1096.9	1097.0	1096.3	1095.6	1094.9	1094.2
22.5°	1072.0	1072.8	1073.5	1073.4	1072.6	1071.7	1070.8	1069.9
25°	1033.9	1034.2	1034.4	1034.2	1033.5	1032.8	1032.1	1031.4
27.5°	993.4	993.6	993.8	993.4	992.6	991.7	990.8	989.9
30°	965.4	965.4	965.4	964.6	963.0	961.3	959.7	958.1
32.5°	936.0	934.7	933.4	932.3	931.4	930.5	929.6	928.8
35°	888.3	886.9	885.5	884.2	883.0	881.9	880.7	879.5
37.5°	838.9	837.2	835.6	834.4	833.6	832.9	832.1	831.4
40°	806.7	804.9	803.0	801.6	800.7	799.7	798.8	797.9
42.5°	773.2	771.3	769.5	768.1	767.2	766.2	765.3	764.4
45°	723.2	720.4	717.6	715.6	714.5	713.3	712.1	711.0
47.5°	670.5	667.8	665.0	663.1	662.1	661.1	660.1	659.0
50°	635.7	633.1	630.6	628.6	627.2	625.8	624.4	623.0
52.5°	600.4	598.2	596.0	594.3	592.9	591.5	590.1	588.7
55°	546.7	544.1	541.6	539.7	538.5	537.4	536.2	535.1
57.5°	493.8	491.6	489.3	487.5	486.1	484.8	483.4	482.1
60°	456.5	454.4	452.3	450.7	449.5	448.4	447.2	446.1
62.5°	420.5	418.4	416.3	414.9	414.1	413.3	412.5	411.7
65°	366.9	365.1	363.2	361.9	361.2	360.5	359.8	359.1
67.5°	313.8	312.2	310.5	309.2	308.3	307.3	306.3	305.3
70°	279.5	277.8	276.2	274.8	273.6	272.5	271.3	270.1
72.5°	244.6	243.2	241.8	240.7	240.1	239.5	238.9	238.3
75°	194.5	193.4	192.2	191.3	190.6	189.9	189.2	188.5
77.5°	147.7	146.9	146.1	145.8	145.8	145.8	145.8	145.8
80°	117.9	117.6	117.4	117.3	117.3	117.3	117.3	117.3
82.5°	90.7	90.3	89.8	89.5	89.4	89.2	89.0	88.8
85°	51.4	51.0	50.5	50.3	50.3	50.3	50.3	50.3
87.5°	19.9	19.8	19.6	19.6	19.6	19.6	19.7	19.7
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	10.1	10.6	11.1	11.4	11.4	11.5	11.6	11.7
95°	12.1	12.6	13.2	13.4	13.4	13.4	13.4	13.4
97.5°	12.6	13.3	13.9	14.2	14.3	14.4	14.5	14.6
100°	12.9	13.5	14.2	14.5	14.6	14.7	14.8	14.8
102.5°	19.4	17.4	15.5	14.6	14.7	14.8	15.0	15.1
105°	49.6	35.7	21.8	14.9	15.1	15.2	15.4	15.5
107.5°	121.5	111.3	101.1	90.7	80.3	69.8	59.3	48.8
110°	154.2	151.6	149.0	142.1	130.9	119.6	108.4	97.2





TEST NUMBER: P331961

CATALOG NUMBER: S123DIP-S775D365U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	177.3	177.3	177.4	176.2	173.8	171.5	169.1	166.7
115°	204.4	205.2	206.0	206.5	206.8	207.2	207.5	207.8
117.5°	229.0	229.6	230.2	230.6	230.6	230.7	230.8	230.8
120°	245.1	245.7	246.3	246.7	246.7	246.7	246.7	246.7
122.5°	260.8	261.3	261.7	261.9	262.0	262.1	262.1	262.2
125°	283.0	283.2	283.3	283.5	283.6	283.8	284.0	284.1
127.5°	305.2	305.5	305.8	305.8	305.6	305.5	305.3	305.2
130°	318.7	319.0	319.3	319.4	319.2	319.1	318.9	318.7
132.5°	331.4	331.7	332.0	332.1	331.8	331.6	331.4	331.2
135°	350.7	350.9	351.1	351.1	350.9	350.7	350.4	350.2
137.5°	367.8	368.2	368.6	368.7	368.5	368.4	368.2	368.1
140°	378.7	379.0	379.4	379.4	379.3	379.1	379.0	378.8
142.5°	389.1	389.3	389.6	389.6	389.4	389.1	388.9	388.7
145°	403.5	403.7	403.8	403.9	403.9	403.9	403.9	403.9
147.5°	416.4	416.6	416.8	416.7	416.3	415.9	415.6	415.2
150°	424.4	424.5	424.7	424.6	424.4	424.2	423.9	423.7
152.5°	431.4	431.7	432.0	431.9	431.6	431.2	430.8	430.5
155°	441.1	441.5	441.9	441.8	441.4	440.9	440.4	439.9
157.5°	449.5	450.0	450.5	450.4	449.8	449.2	448.5	447.9
160°	454.3	454.8	455.3	455.2	454.7	454.1	453.6	453.0
162.5°	458.7	459.2	459.7	459.8	459.3	458.8	458.3	457.8
165°	464.5	465.2	465.8	465.8	465.3	464.7	464.2	463.6
167.5°	469.0	469.7	470.3	470.3	469.7	469.0	468.4	467.8
170°	471.6	472.2	472.8	472.8	472.2	471.6	471.0	470.3
172.5°	473.3	473.9	474.5	474.5	473.8	473.1	472.4	471.7
175°	475.3	475.9	476.4	476.4	475.8	475.1	474.5	473.9
177.5°	476.1	476.6	477.1	477.0	476.4	475.8	475.1	474.5
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6

(END OF REPORT)