

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: P332532-830

Luminaire Tested: **S124DIP-S350D1205U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332532-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D1205U830-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5962.4 lumens  
Efficiency: N/A  
Efficacy: 141.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

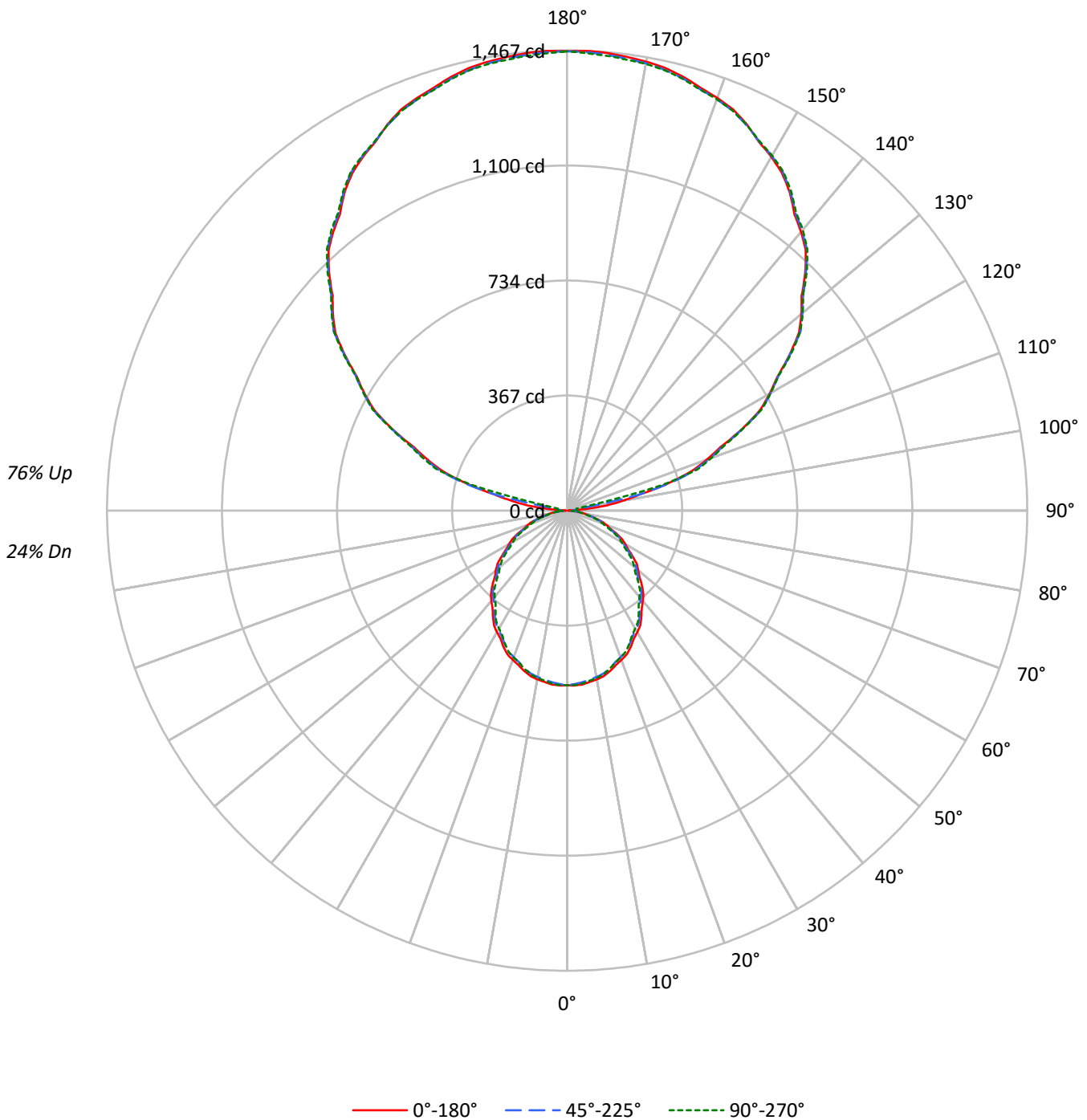
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	92	88	84	81	82	78	75	72	60	58	56	44	42	41	28	28	27	20
2	84	77	71	66	74	68	63	59	53	49	46	38	36	34	25	24	23	17
3	76	67	60	55	68	60	54	49	46	42	39	34	31	29	22	21	19	14
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	12
5	64	53	45	39	56	47	41	36	37	32	28	27	24	21	18	16	14	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	9
7	54	42	35	29	48	38	31	27	30	25	22	22	19	16	15	13	11	8
8	50	38	31	26	44	34	28	23	27	22	19	20	17	14	13	11	10	7
9	46	35	28	23	41	31	25	21	25	20	17	18	15	13	12	10	9	7
10	43	32	25	20	38	29	23	18	23	18	15	17	14	12	11	10	8	6

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

	0°	45°	90°
0°	4495	4495	4495
5°	4508	4454	4486
10°	4480	4418	4440
15°	4425	4355	4367
20°	4354	4277	4281
25°	4272	4188	4177
30°	4172	4084	4047
35°	4066	3975	3921
40°	3958	3851	3780
45°	3846	3729	3658
50°	3720	3620	3508
55°	3586	3478	3365
60°	3450	3321	3219
65°	3299	3171	3043
70°	3127	2969	2854
75°	2866	2729	2658
80°	2552	2450	2385
85°	2232	2149	2103



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.4	0.9
10°-20°	147.7	2.5
20°-30°	217.4	3.6
30°-40°	252.8	4.2
40°-50°	252.8	4.2
50°-60°	221.1	3.7
60°-70°	164.2	2.8
70°-80°	93.3	1.6
80°-90°	31.2	0.5
90°-100°	50.1	0.8
100°-110°	319.3	5.4
110°-120°	610.8	10.2
120°-130°	775.4	13.0
130°-140°	829.7	13.9
140°-150°	775.8	13.0
150°-160°	625.7	10.5
160°-170°	403.5	6.8
170°-180°	139.1	2.3
0°-30°	417.6	7.0
0°-40°	670.4	11.2
0°-60°	1144.3	19.2
0°-90°	1433.0	24.0
90°-120°	980.2	16.4
90°-150°	3361.2	56.4
90°-180°	4529.0	76.0
0°-180°	5962.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	556	554	550	554	554	53
15°	530	528	521	524	522	149
25°	480	476	470	471	469	221
35°	413	409	403	400	398	258
45°	337	333	327	322	320	260
55°	255	253	247	242	239	228
65°	173	170	166	162	159	171
75°	92	90	88	86	85	98
85°	24	24	23	23	23	27
90°	3	15	24	30	33	4
95°	60	25	24	30	32	77
105°	330	336	342	349	312	345
115°	616	619	618	620	620	605
125°	865	869	867	871	872	772
135°	1073	1072	1077	1079	1081	827
145°	1238	1241	1241	1242	1244	773
155°	1357	1358	1355	1359	1356	625
165°	1431	1426	1426	1434	1425	404
175°	1464	1458	1459	1467	1456	139
180°	1464	1464	1464	1464	1464	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	558.2	558.0	557.7	557.5	557.2	556.7	555.8	555.0	554.1	553.2	554.0
5°	556.3	555.9	555.5	555.2	554.8	554.0	552.9	551.9	550.7	549.6	550.7
7.5°	551.2	550.7	550.4	550.0	549.6	548.7	547.5	546.4	545.2	543.9	544.8
10°	546.5	546.1	545.7	545.4	545.0	544.1	542.8	541.5	540.3	538.9	539.7
12.5°	540.5	540.1	539.7	539.2	538.9	538.0	536.6	535.3	533.9	532.5	533.4
15°	529.5	529.1	528.8	528.4	528.0	527.1	525.6	524.1	522.5	521.1	521.7
17.5°	516.4	515.9	515.5	515.0	514.4	513.5	512.1	510.7	509.3	507.8	508.2
20°	506.8	506.3	505.9	505.3	504.8	503.9	502.4	500.9	499.4	497.9	498.2
22.5°	496.4	495.8	495.1	494.5	493.8	492.8	491.3	489.8	488.3	486.8	487.4
25°	479.6	478.9	478.2	477.5	476.8	475.8	474.4	473.0	471.6	470.2	470.3
27.5°	460.3	459.6	458.9	458.2	457.5	456.5	455.2	453.9	452.6	451.3	451.1
30°	447.5	446.7	445.9	445.1	444.3	443.3	442.0	440.6	439.4	438.1	437.7
32.5°	433.9	433.2	432.4	431.8	431.0	430.0	428.7	427.3	425.9	424.5	424.0
35°	412.6	412.0	411.3	410.6	409.9	408.9	407.5	406.0	404.7	403.3	402.7
37.5°	390.3	389.6	389.0	388.4	387.8	386.7	385.2	383.7	382.2	380.7	379.9
40°	375.6	374.8	374.1	373.2	372.5	371.4	369.9	368.3	366.8	365.4	364.4
42.5°	360.0	359.5	359.0	358.5	358.1	356.9	355.3	353.6	352.0	350.4	349.2
45°	336.9	336.1	335.5	334.8	334.0	332.9	331.3	329.7	328.2	326.6	325.5
47.5°	312.6	312.2	311.7	311.2	310.8	309.8	308.3	306.8	305.4	303.9	302.7
50°	296.2	295.9	295.5	295.0	294.6	293.8	292.4	291.0	289.5	288.2	286.8
52.5°	280.2	279.7	279.2	278.7	278.2	277.3	275.8	274.4	272.9	271.5	270.2
55°	254.8	254.5	254.1	253.8	253.5	252.7	251.3	250.0	248.5	247.1	246.0
57.5°	230.5	230.2	229.8	229.5	229.1	228.3	226.9	225.6	224.1	222.8	221.7
60°	213.7	213.2	212.7	212.2	211.7	210.8	209.5	208.2	207.0	205.7	204.8
62.5°	197.3	196.9	196.4	196.0	195.6	194.7	193.3	192.0	190.6	189.3	188.4
65°	172.7	172.2	171.6	171.2	170.7	169.9	168.9	168.0	166.9	166.0	164.9
67.5°	147.9	147.4	146.9	146.5	146.0	145.3	144.4	143.5	142.5	141.5	140.5
70°	132.5	131.8	131.1	130.4	129.7	128.9	128.2	127.4	126.6	125.8	125.0
72.5°	116.1	115.4	114.7	114.0	113.3	112.6	112.0	111.4	110.7	110.1	109.4
75°	91.9	91.4	91.0	90.4	89.9	89.4	89.0	88.4	87.9	87.5	87.1
77.5°	68.8	68.6	68.3	68.1	68.0	67.6	67.2	66.7	66.3	65.9	65.7
80°	54.9	54.6	54.3	54.0	53.7	53.4	53.3	53.1	52.9	52.7	52.4
82.5°	41.3	41.2	41.0	40.9	40.7	40.6	40.6	40.6	40.5	40.5	40.4
85°	24.1	24.1	24.1	24.1	24.1	24.0	23.8	23.6	23.4	23.2	23.2
87.5°	9.9	10.4	10.8	11.3	11.8	12.2	12.4	12.7	13.1	13.4	13.7
90°	3.3	5.9	8.7	11.3	13.9	16.3	18.3	20.2	22.1	24.1	25.5
92.5°	13.8	13.9	14.1	14.2	14.4	15.5	17.3	19.3	21.3	23.2	24.7
95°	60.2	51.9	43.6	35.4	27.1	23.1	23.4	23.6	23.8	24.1	25.5
97.5°	127.9	133.1	138.3	143.4	148.5	137.5	110.4	83.2	56.1	28.9	29.0
100°	179.6	184.0	188.4	192.7	197.2	182.6	148.9	115.4	81.8	48.2	44.0
102.5°	237.4	240.6	243.8	247.0	250.2	249.7	245.3	240.9	236.6	232.1	187.6
105°	329.6	331.1	332.5	334.0	335.5	336.9	338.1	339.2	340.4	341.7	343.9
107.5°	415.3	416.0	416.8	417.5	418.2	419.4	421.0	422.7	424.3	426.0	427.1
110°	473.2	473.8	474.6	475.3	476.1	477.1	478.6	480.0	481.5	483.0	483.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	529.2	530.6	531.8	533.1	534.4	535.5	536.1	536.8	537.5	538.2	538.1
115°	615.5	616.2	617.0	617.6	618.4	618.7	618.4	618.2	617.9	617.6	618.2
117.5°	693.2	694.2	695.2	696.2	697.1	697.9	698.4	699.0	699.6	700.0	699.9
120°	745.8	746.8	747.8	748.8	749.7	750.1	749.9	749.6	749.3	749.1	749.6
122.5°	794.8	795.5	796.1	796.6	797.2	797.7	798.1	798.3	798.7	799.1	799.4
125°	865.2	866.2	867.1	868.1	869.1	869.3	868.8	868.4	867.9	867.4	868.1
127.5°	931.8	932.0	932.3	932.6	932.7	933.4	934.5	935.7	936.8	937.9	937.7
130°	974.7	975.0	975.2	975.4	975.7	976.2	976.9	977.6	978.4	979.1	979.3
132.5°	1014.2	1014.6	1015.0	1015.5	1015.9	1016.6	1017.5	1018.4	1019.4	1020.3	1020.5
135°	1073.3	1073.1	1072.8	1072.5	1072.3	1072.7	1073.7	1074.6	1075.6	1076.6	1077.0
137.5°	1125.7	1125.8	1125.9	1126.0	1126.1	1126.6	1127.7	1128.8	1129.8	1130.9	1131.4
140°	1159.8	1160.3	1160.7	1161.3	1161.8	1162.2	1162.7	1163.2	1163.7	1164.2	1164.9
142.5°	1190.4	1191.4	1192.2	1193.1	1194.0	1194.6	1194.9	1195.1	1195.4	1195.7	1196.3
145°	1237.6	1238.3	1239.1	1239.7	1240.5	1240.9	1240.9	1240.9	1240.9	1240.9	1241.1
147.5°	1275.0	1276.4	1277.7	1279.1	1280.4	1281.0	1280.8	1280.5	1280.3	1280.1	1280.3
150°	1302.2	1303.2	1304.1	1305.1	1306.1	1306.5	1306.2	1306.0	1305.7	1305.4	1305.4
152.5°	1324.9	1325.8	1326.5	1327.3	1328.0	1328.2	1327.9	1327.4	1326.9	1326.5	1326.9
155°	1357.0	1357.2	1357.4	1357.6	1357.9	1357.6	1357.0	1356.2	1355.5	1354.7	1355.8
157.5°	1383.8	1383.7	1383.6	1383.5	1383.3	1382.8	1382.0	1381.2	1380.4	1379.5	1380.7
160°	1399.7	1398.9	1398.2	1397.5	1396.8	1396.3	1396.0	1395.7	1395.5	1395.2	1396.8
162.5°	1413.6	1412.8	1411.8	1410.9	1409.9	1409.4	1409.1	1408.9	1408.6	1408.4	1409.9
165°	1431.4	1430.2	1429.0	1427.8	1426.5	1426.0	1426.0	1426.0	1426.0	1426.0	1427.9
167.5°	1445.4	1444.2	1442.9	1441.6	1440.4	1439.6	1439.5	1439.4	1439.3	1439.1	1441.2
170°	1453.3	1451.9	1450.4	1449.0	1447.5	1446.9	1447.1	1447.4	1447.6	1447.8	1449.8
172.5°	1458.6	1457.1	1455.7	1454.2	1452.7	1452.1	1452.4	1452.6	1452.8	1453.1	1455.0
175°	1464.2	1462.8	1461.3	1459.9	1458.4	1457.8	1458.0	1458.3	1458.6	1458.8	1460.9
177.5°	1466.9	1465.6	1464.1	1462.8	1461.4	1460.9	1461.3	1461.7	1462.2	1462.5	1464.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	554.8	555.6	556.4	556.8	556.7	556.6	556.5	556.4
5°	551.9	552.9	554.0	554.4	554.2	554.0	553.8	553.6
7.5°	545.6	546.6	547.4	547.8	547.7	547.5	547.4	547.3
10°	540.5	541.3	542.2	542.4	542.2	542.0	541.8	541.6
12.5°	534.2	535.1	536.0	536.3	536.0	535.7	535.5	535.2
15°	522.3	522.8	523.5	523.6	523.3	523.0	522.7	522.5
17.5°	508.6	509.0	509.3	509.4	509.3	509.1	508.9	508.7
20°	498.5	498.8	499.1	499.2	498.9	498.7	498.5	498.3
22.5°	487.9	488.4	489.0	489.1	488.7	488.3	488.0	487.7
25°	470.4	470.5	470.6	470.5	470.0	469.7	469.3	468.9
27.5°	450.8	450.6	450.3	450.0	449.5	449.0	448.5	448.0
30°	437.3	437.0	436.5	436.1	435.5	435.1	434.6	434.1
32.5°	423.6	423.1	422.6	422.2	421.7	421.1	420.7	420.2
35°	401.9	401.2	400.5	399.9	399.4	399.0	398.4	397.9
37.5°	379.2	378.4	377.7	377.0	376.4	375.7	375.0	374.4
40°	363.4	362.4	361.5	360.7	360.1	359.7	359.2	358.7
42.5°	348.1	346.9	345.8	345.1	344.7	344.4	344.0	343.7
45°	324.4	323.3	322.3	321.5	321.2	320.9	320.7	320.4
47.5°	301.4	300.2	299.0	298.0	297.3	296.5	295.8	295.0
50°	285.4	284.1	282.7	281.6	281.1	280.5	279.8	279.3
52.5°	269.0	267.8	266.6	265.5	264.8	264.0	263.3	262.5
55°	244.8	243.6	242.4	241.5	240.9	240.3	239.7	239.1
57.5°	220.6	219.4	218.3	217.4	216.9	216.3	215.7	215.1
60°	203.9	203.0	202.1	201.4	201.0	200.4	199.9	199.4
62.5°	187.7	186.8	186.0	185.3	184.8	184.4	183.9	183.3
65°	164.0	163.0	162.0	161.3	160.8	160.2	159.8	159.3
67.5°	139.6	138.6	137.7	137.1	137.0	136.9	136.8	136.6
70°	124.2	123.5	122.6	122.1	121.8	121.5	121.2	120.9
72.5°	108.9	108.2	107.5	107.1	106.8	106.5	106.2	105.9
75°	86.6	86.2	85.9	85.6	85.5	85.4	85.3	85.2
77.5°	65.6	65.5	65.4	65.2	64.9	64.7	64.4	64.2
80°	52.2	52.0	51.8	51.7	51.6	51.5	51.4	51.3
82.5°	40.2	40.2	40.1	40.0	39.9	39.7	39.6	39.5
85°	23.2	23.2	23.2	23.2	23.1	23.0	22.8	22.7
87.5°	13.9	14.2	14.5	14.7	14.8	15.0	15.1	15.2
90°	27.1	28.5	30.0	30.9	31.4	31.9	32.3	32.9
92.5°	26.1	27.6	29.0	29.9	30.0	30.1	30.2	30.3
95°	27.1	28.5	30.0	30.8	31.0	31.3	31.5	31.8
97.5°	29.2	29.3	29.5	29.7	30.0	30.2	30.4	30.6
100°	39.9	35.8	31.7	29.7	30.0	30.2	30.4	30.6
102.5°	142.9	98.3	53.6	31.4	31.4	31.5	31.5	31.6
105°	346.1	348.3	350.4	347.1	338.4	329.6	320.9	312.2
107.5°	428.2	429.2	430.3	431.3	432.3	433.2	434.0	435.0
110°	484.0	484.5	484.9	485.5	486.3	487.0	487.8	488.4





TEST NUMBER: P332532-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	538.0	537.9	537.8	538.2	539.1	540.1	541.0	541.9
115°	618.7	619.2	619.6	619.9	619.9	619.9	619.9	619.9
117.5°	699.8	699.7	699.6	699.6	699.5	699.4	699.3	699.2
120°	750.1	750.5	751.0	751.0	750.5	750.1	749.6	749.1
122.5°	799.7	799.9	800.2	800.1	799.7	799.2	798.6	798.1
125°	868.8	869.6	870.3	870.8	871.0	871.3	871.6	871.8
127.5°	937.6	937.5	937.4	937.2	937.0	936.8	936.6	936.4
130°	979.6	979.9	980.1	980.1	980.1	980.1	980.1	980.1
132.5°	1020.8	1021.1	1021.2	1021.2	1021.1	1020.9	1020.7	1020.5
135°	1077.5	1078.0	1078.6	1079.0	1079.5	1080.0	1080.4	1080.9
137.5°	1132.0	1132.5	1133.0	1133.2	1133.1	1132.9	1132.7	1132.7
140°	1165.6	1166.4	1167.2	1167.6	1167.8	1168.1	1168.3	1168.6
142.5°	1196.8	1197.3	1197.9	1198.2	1198.3	1198.3	1198.3	1198.3
145°	1241.3	1241.6	1241.8	1242.2	1242.6	1243.1	1243.7	1244.2
147.5°	1280.4	1280.6	1280.8	1281.0	1281.3	1281.6	1281.8	1282.0
150°	1305.4	1305.4	1305.4	1305.6	1305.8	1306.1	1306.4	1306.6
152.5°	1327.3	1327.7	1328.0	1328.1	1328.0	1327.9	1327.8	1327.6
155°	1356.7	1357.6	1358.7	1358.8	1358.0	1357.3	1356.6	1355.8
157.5°	1382.1	1383.3	1384.6	1384.6	1383.3	1382.1	1380.7	1379.5
160°	1398.2	1399.7	1401.1	1401.1	1399.7	1398.2	1396.8	1395.2
162.5°	1411.4	1412.8	1414.3	1414.2	1412.5	1410.9	1409.2	1407.5
165°	1429.8	1431.8	1433.7	1433.6	1431.4	1429.2	1427.0	1424.8
167.5°	1443.4	1445.5	1447.7	1447.5	1445.1	1442.7	1440.2	1437.8
170°	1451.7	1453.7	1455.7	1455.4	1452.9	1450.5	1448.1	1445.7
172.5°	1457.0	1459.0	1460.8	1460.6	1457.9	1455.3	1452.6	1450.0
175°	1463.2	1465.4	1467.5	1467.2	1464.2	1461.3	1458.4	1455.5
177.5°	1465.7	1467.2	1468.8	1468.4	1466.0	1463.7	1461.3	1459.1
180°	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2	1464.2

(END OF REPORT)