

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: P332530-830

Luminaire Tested: **S124DIP-S350D1205U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332530-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
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-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5290.6 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

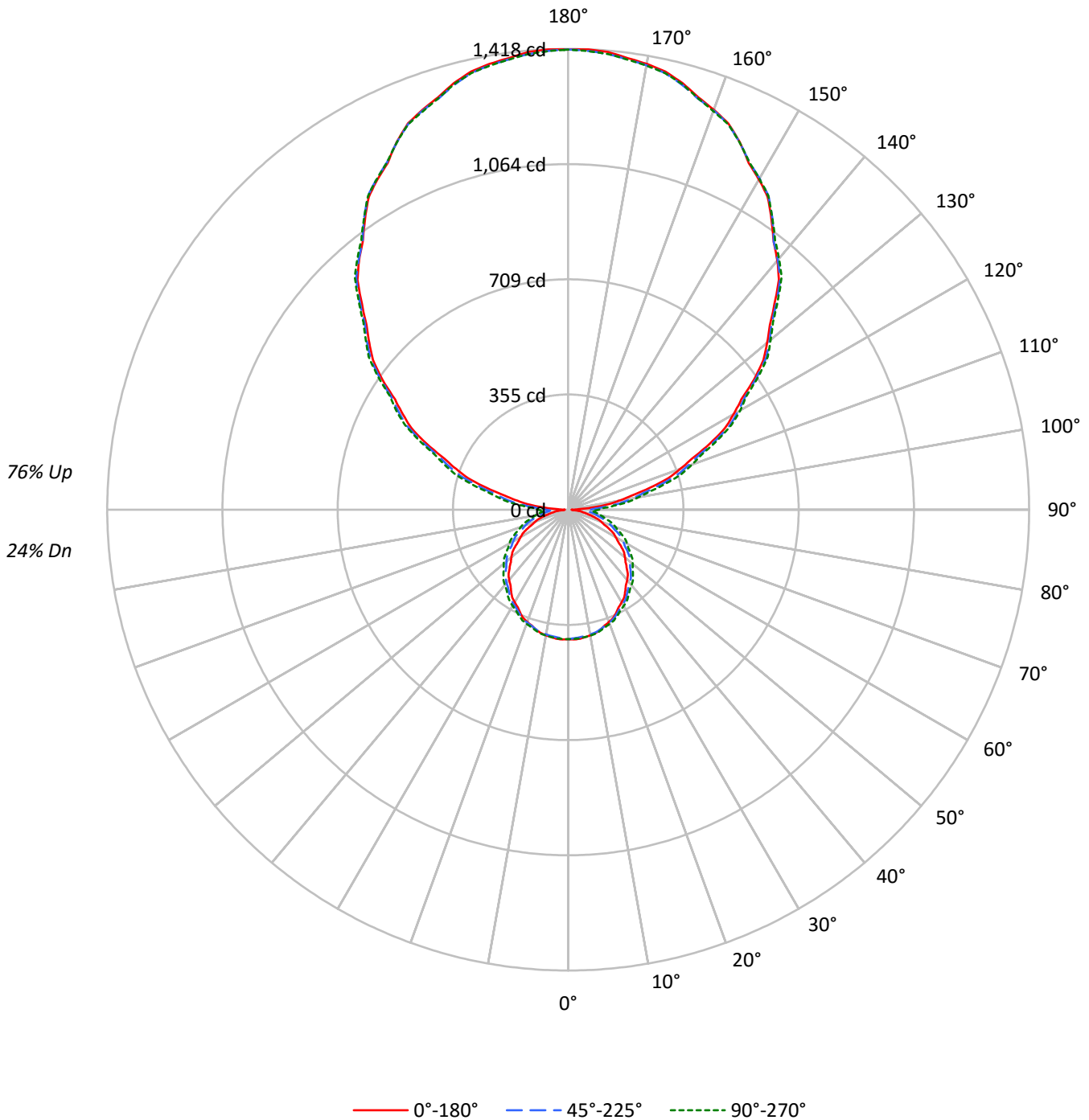
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**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	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	65	73	67	62	58	52	48	45	37	35	33	24	23	21	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	30	24	20	24	19	16	17	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

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

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	0.7
10°-20°	108.1	2.0
20°-30°	163.4	3.1
30°-40°	197.8	3.7
40°-50°	209.1	4.0
50°-60°	196.8	3.7
60°-70°	163.2	3.1
70°-80°	114.7	2.2
80°-90°	69.0	1.3
90°-100°	131.9	2.5
100°-110°	305.1	5.8
110°-120°	488.7	9.2
120°-130°	629.9	11.9
130°-140°	700.0	13.2
140°-150°	684.2	12.9
150°-160°	574.7	10.9
160°-170°	382.4	7.2
170°-180°	133.9	2.5
0°-30°	309.3	5.8
0°-40°	507.0	9.6
0°-60°	912.9	17.3
0°-90°	1259.8	23.8
90°-120°	925.7	17.5
90°-150°	2939.9	55.6
90°-180°	4031.0	76.2
0°-180°	5290.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	10	40	68	87	94	9
95°	72	96	122	137	141	78
105°	259	270	290	304	311	275
115°	480	485	496	505	507	473
125°	697	697	707	713	714	621
135°	898	904	907	912	912	694
145°	1090	1094	1095	1096	1095	682
155°	1248	1248	1247	1251	1247	574
165°	1359	1356	1354	1359	1356	383
175°	1414	1408	1407	1414	1407	134
180°	1416	1416	1416	1416	1416	



TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.9	18.5	23.0	27.6	32.1	36.9	41.6	46.3	51.0	55.8	58.9
90°	10.5	17.1	23.8	30.3	36.9	43.5	49.7	55.8	62.0	68.2	72.6
92.5°	30.3	36.9	43.5	50.1	56.7	62.9	68.5	74.2	79.7	85.4	89.1
95°	71.5	77.0	82.5	87.8	93.3	99.0	104.7	110.5	116.3	122.1	125.5
97.5°	120.0	124.6	129.1	133.7	138.3	143.5	149.6	155.6	161.6	167.7	171.2
100°	158.3	161.7	165.3	168.9	172.4	177.2	183.3	189.4	195.4	201.4	204.6
102.5°	198.5	201.1	203.8	206.4	209.2	213.3	219.1	224.9	230.6	236.5	239.8
105°	259.2	261.4	263.6	265.8	268.1	271.5	276.2	280.8	285.4	290.0	293.3
107.5°	323.7	325.6	327.5	329.4	331.3	334.1	337.7	341.4	345.0	348.6	351.7
110°	367.1	369.0	370.9	372.8	374.7	377.2	380.4	383.6	386.8	390.1	391.9



TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	412.4	413.7	415.0	416.3	417.6	419.7	422.6	425.5	428.4	431.2	433.3
115°	480.1	481.0	481.9	482.8	483.7	485.5	488.1	490.9	493.5	496.2	498.1
117.5°	544.4	545.2	545.9	546.6	547.3	549.0	551.6	554.2	556.9	559.5	560.7
120°	587.0	588.2	589.6	590.8	592.1	593.8	595.9	598.0	600.2	602.4	603.1
122.5°	631.7	632.1	632.5	633.0	633.5	634.9	637.3	639.6	642.0	644.4	645.5
125°	697.1	697.0	696.9	696.8	696.7	697.8	700.0	702.3	704.6	706.7	708.1
127.5°	756.9	757.4	758.1	758.7	759.4	760.4	762.0	763.5	765.0	766.5	767.8
130°	798.5	799.2	799.7	800.4	801.1	802.2	803.7	805.3	806.9	808.5	809.8
132.5°	841.5	841.9	842.4	842.7	843.2	844.0	845.0	846.1	847.2	848.3	849.5
135°	897.8	899.2	900.7	902.1	903.6	904.7	905.3	906.1	906.7	907.4	908.5
137.5°	959.5	960.1	960.6	961.2	961.9	962.4	963.2	963.9	964.7	965.4	966.2
140°	1000.7	1001.1	1001.5	1001.8	1002.2	1002.5	1002.6	1002.7	1002.8	1002.9	1003.9
142.5°	1038.0	1038.5	1038.9	1039.3	1039.8	1039.9	1039.7	1039.4	1039.2	1039.0	1040.0
145°	1090.1	1090.9	1091.7	1092.6	1093.5	1094.1	1094.3	1094.6	1094.8	1095.0	1095.4
147.5°	1141.7	1142.7	1143.9	1144.9	1145.9	1146.4	1146.2	1146.0	1145.8	1145.7	1145.6
150°	1173.3	1174.1	1175.0	1175.8	1176.8	1177.1	1177.1	1177.1	1177.1	1177.1	1177.1
152.5°	1202.7	1203.2	1203.8	1204.4	1204.9	1205.3	1205.5	1205.7	1205.9	1206.1	1206.6
155°	1248.3	1248.3	1248.3	1248.3	1248.3	1248.2	1248.0	1247.7	1247.5	1247.3	1248.2
157.5°	1286.9	1286.5	1286.0	1285.6	1285.2	1284.9	1284.9	1284.8	1284.8	1284.7	1285.4
160°	1309.7	1309.5	1309.2	1308.9	1308.7	1308.4	1308.2	1308.0	1307.7	1307.5	1308.2
162.5°	1330.7	1330.0	1329.5	1328.8	1328.1	1327.8	1327.5	1327.3	1327.0	1326.7	1328.0
165°	1359.0	1358.2	1357.4	1356.8	1356.0	1355.4	1354.9	1354.4	1354.0	1353.5	1354.9
167.5°	1380.6	1379.6	1378.6	1377.5	1376.6	1376.0	1376.1	1376.1	1376.2	1376.2	1377.7
170°	1392.9	1391.7	1390.4	1389.2	1388.0	1387.5	1387.8	1388.0	1388.3	1388.6	1390.0
172.5°	1401.7	1400.6	1399.6	1398.5	1397.6	1397.0	1397.1	1397.2	1397.2	1397.3	1398.9
175°	1413.7	1412.5	1411.3	1410.0	1408.8	1408.1	1407.9	1407.6	1407.4	1407.1	1408.8
177.5°	1417.7	1416.6	1415.7	1414.8	1413.7	1413.2	1413.2	1413.2	1413.2	1413.2	1414.7
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9



TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	62.1	65.2	68.4	70.5	71.4	72.5	73.4	74.4
90°	76.9	81.2	85.6	88.4	89.7	91.0	92.3	93.5
92.5°	92.7	96.4	100.1	102.5	103.6	104.6	105.8	106.8
95°	128.8	132.2	135.6	137.8	138.7	139.6	140.5	141.4
97.5°	174.7	178.0	181.5	183.7	184.5	185.4	186.2	187.1
100°	207.7	210.9	214.1	216.0	216.7	217.4	218.1	218.8
102.5°	243.0	246.3	249.6	251.7	252.7	253.6	254.6	255.5
105°	296.5	299.7	302.9	305.3	306.8	308.3	309.8	311.3
107.5°	354.9	358.0	361.1	363.0	363.6	364.3	365.0	365.6
110°	393.7	395.5	397.3	398.9	400.4	402.0	403.5	405.0





TEST NUMBER: P332530-830

CATALOG NUMBER: S124DIP-S350D1205U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.5	437.5	439.6	441.1	442.1	443.0	443.9	444.9
115°	500.1	502.0	504.0	505.2	505.6	506.1	506.5	507.0
117.5°	561.9	563.2	564.4	565.1	565.5	565.8	566.1	566.4
120°	603.9	604.6	605.4	606.4	607.8	609.0	610.3	611.5
122.5°	646.7	647.8	649.0	649.5	649.3	649.1	649.0	648.8
125°	709.5	711.0	712.4	713.1	713.2	713.3	713.4	713.5
127.5°	769.1	770.3	771.7	772.5	772.8	773.1	773.4	773.6
130°	811.1	812.4	813.7	814.2	813.8	813.4	813.0	812.7
132.5°	850.6	851.9	853.1	853.8	854.0	854.2	854.4	854.7
135°	909.6	910.7	911.8	912.3	912.2	912.0	911.9	911.7
137.5°	967.0	967.8	968.7	969.4	970.0	970.6	971.3	971.9
140°	1004.9	1006.0	1007.0	1007.7	1008.0	1008.2	1008.4	1008.7
142.5°	1041.1	1042.2	1043.3	1044.0	1044.3	1044.7	1045.1	1045.5
145°	1095.7	1096.1	1096.5	1096.5	1096.1	1095.8	1095.4	1095.1
147.5°	1145.4	1145.3	1145.2	1145.2	1145.2	1145.3	1145.4	1145.5
150°	1177.1	1177.1	1177.1	1177.0	1176.8	1176.6	1176.3	1176.1
152.5°	1207.2	1207.9	1208.4	1208.4	1207.8	1207.1	1206.5	1205.9
155°	1249.2	1250.2	1251.1	1251.1	1250.2	1249.2	1248.2	1247.3
157.5°	1286.2	1286.9	1287.6	1287.6	1286.8	1285.9	1285.1	1284.3
160°	1308.9	1309.7	1310.4	1310.1	1308.9	1307.7	1306.6	1305.3
162.5°	1329.4	1330.7	1332.0	1332.1	1330.9	1329.6	1328.4	1327.2
165°	1356.4	1357.8	1359.3	1359.5	1358.6	1357.6	1356.6	1355.7
167.5°	1379.1	1380.6	1382.1	1382.1	1380.5	1379.0	1377.5	1376.0
170°	1391.5	1392.9	1394.4	1394.2	1392.5	1390.8	1389.1	1387.4
172.5°	1400.6	1402.2	1403.9	1403.9	1402.1	1400.4	1398.7	1397.0
175°	1410.5	1412.2	1413.9	1413.9	1412.2	1410.5	1408.8	1407.1
177.5°	1416.0	1417.4	1418.7	1418.6	1417.0	1415.5	1413.9	1412.4
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9

(END OF REPORT)