

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: P332533-840

Luminaire Tested: **S124DIP-S350D1205U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332533-840  
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-S350D1205U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 5744.3 lumens  
Efficiency: N/A  
Efficacy: 136.1 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

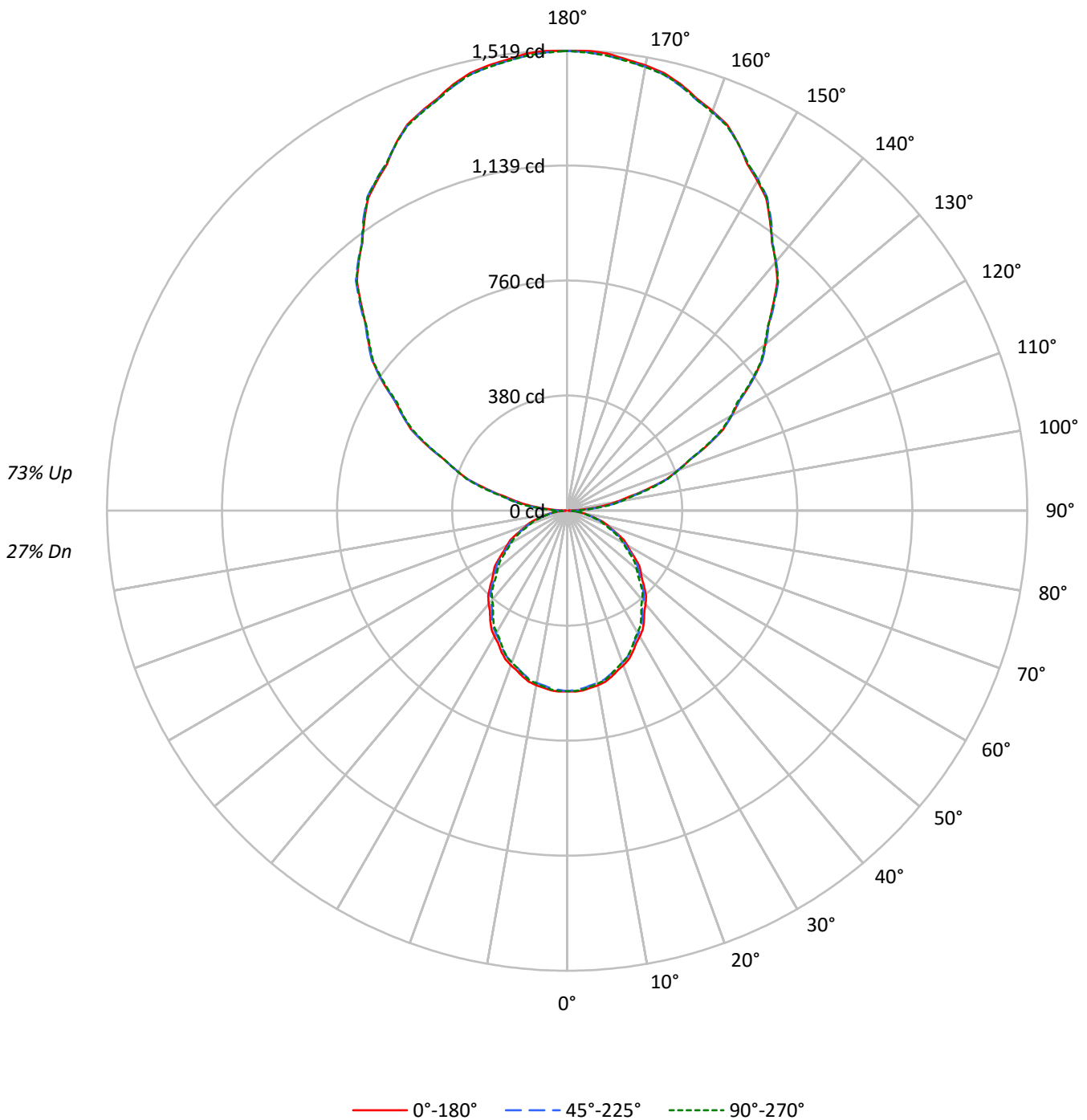
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	93	88	85	81	82	79	76	73	61	59	57	45	44	43	31	30	29	22
2	84	77	71	66	75	69	64	60	54	50	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	24	22	21	16
4	70	60	52	46	62	54	47	42	42	37	34	31	28	26	21	19	18	14
5	64	53	45	40	57	48	41	36	37	33	29	28	25	22	19	17	16	12
6	59	47	40	34	53	43	36	31	34	29	25	25	22	19	17	15	14	10
7	54	43	35	30	48	38	32	27	30	26	22	23	20	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	18	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	14	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	15	18	14	12	12	10	9	7

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

	0°	45°	90°
0°	4816	4816	4816
5°	4830	4772	4807
10°	4800	4733	4757
15°	4741	4667	4679
20°	4665	4582	4587
25°	4577	4488	4475
30°	4470	4376	4336
35°	4357	4258	4202
40°	4241	4126	4051
45°	4120	3995	3919
50°	3986	3878	3758
55°	3842	3727	3606
60°	3696	3559	3450
65°	3534	3396	3261
70°	3352	3182	3059
75°	3072	2923	2848
80°	2734	2627	2552
85°	2399	2297	2251



TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.2	1.0
10°-20°	158.3	2.8
20°-30°	233.0	4.1
30°-40°	270.8	4.7
40°-50°	270.9	4.7
50°-60°	236.9	4.1
60°-70°	175.9	3.1
70°-80°	100.0	1.7
80°-90°	33.4	0.6
90°-100°	100.1	1.7
100°-110°	296.4	5.2
110°-120°	503.1	8.8
120°-130°	663.4	11.5
130°-140°	745.0	13.0
140°-150°	732.1	12.7
150°-160°	615.7	10.7
160°-170°	409.7	7.1
170°-180°	143.5	2.5
0°-30°	447.4	7.8
0°-40°	718.3	12.5
0°-60°	1226.1	21.3
0°-90°	1535.3	26.7
90°-120°	899.6	15.7
90°-150°	3040.1	52.9
90°-180°	4209.0	73.3
0°-180°	5744.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	596	594	589	594	593	57
15°	567	565	558	561	560	160
25°	514	510	504	504	502	236
35°	442	439	432	429	426	276
45°	361	357	350	345	343	278
55°	273	271	265	259	256	244
65°	185	182	178	173	171	183
75°	98	96	94	92	91	105
85°	26	26	25	25	24	28
90°	4	16	26	33	35	6
95°	70	81	89	92	93	78
105°	273	275	279	283	286	290
115°	512	511	509	508	507	504
125°	745	745	744	741	739	664
135°	961	968	968	966	962	743
145°	1167	1172	1173	1172	1169	730
155°	1338	1337	1336	1340	1336	615
165°	1456	1453	1450	1456	1452	410
175°	1515	1509	1508	1515	1508	144
180°	1517	1517	1517	1517	1517	



TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	598.0	597.8	597.5	597.3	597.0	596.4	595.5	594.6	593.7	592.7	593.6
5°	596.0	595.6	595.2	594.8	594.4	593.6	592.4	591.3	590.1	588.9	590.1
7.5°	590.6	590.1	589.7	589.3	588.9	587.9	586.6	585.4	584.1	582.8	583.7
10°	585.5	585.1	584.7	584.3	583.9	583.0	581.6	580.2	578.9	577.4	578.2
12.5°	579.1	578.7	578.2	577.7	577.3	576.4	574.9	573.5	572.0	570.6	571.5
15°	567.3	566.9	566.5	566.1	565.7	564.7	563.1	561.5	559.9	558.4	559.0
17.5°	553.3	552.8	552.3	551.8	551.2	550.2	548.7	547.1	545.6	544.1	544.5
20°	543.0	542.5	542.0	541.4	540.9	539.9	538.3	536.6	535.0	533.4	533.8
22.5°	531.9	531.2	530.5	529.8	529.1	528.0	526.3	524.8	523.2	521.6	522.2
25°	513.8	513.1	512.4	511.6	510.9	509.8	508.3	506.8	505.3	503.8	503.9
27.5°	493.2	492.4	491.7	490.9	490.2	489.1	487.7	486.4	484.9	483.5	483.3
30°	479.5	478.6	477.8	476.9	476.1	474.9	473.5	472.1	470.8	469.4	469.0
32.5°	464.9	464.1	463.3	462.6	461.8	460.7	459.3	457.8	456.4	454.8	454.3
35°	442.1	441.4	440.7	439.9	439.2	438.1	436.6	435.0	433.6	432.1	431.4
37.5°	418.2	417.5	416.8	416.2	415.5	414.3	412.7	411.1	409.5	407.9	407.1
40°	402.4	401.6	400.8	399.9	399.1	397.9	396.3	394.7	393.0	391.5	390.4
42.5°	385.7	385.2	384.7	384.2	383.6	382.4	380.7	378.9	377.2	375.5	374.2
45°	360.9	360.1	359.4	358.7	357.9	356.7	355.0	353.3	351.6	349.9	348.7
47.5°	335.0	334.5	334.0	333.5	333.0	331.9	330.3	328.7	327.2	325.6	324.3
50°	317.4	317.0	316.6	316.1	315.7	314.8	313.3	311.7	310.2	308.8	307.3
52.5°	300.2	299.6	299.1	298.6	298.1	297.1	295.5	294.0	292.4	290.8	289.5
55°	273.0	272.7	272.3	272.0	271.7	270.7	269.2	267.8	266.3	264.8	263.6
57.5°	246.9	246.6	246.2	245.9	245.5	244.6	243.1	241.7	240.1	238.7	237.5
60°	228.9	228.4	227.9	227.3	226.8	225.9	224.5	223.1	221.8	220.4	219.4
62.5°	211.4	211.0	210.5	210.1	209.5	208.6	207.1	205.7	204.2	202.8	201.9
65°	185.0	184.5	183.9	183.4	182.9	182.1	181.0	180.0	178.8	177.8	176.7
67.5°	158.4	157.9	157.4	156.9	156.4	155.7	154.7	153.7	152.7	151.6	150.6
70°	142.0	141.2	140.5	139.8	139.0	138.1	137.3	136.5	135.6	134.8	133.9
72.5°	124.4	123.6	122.9	122.2	121.4	120.7	120.0	119.4	118.7	118.0	117.2
75°	98.5	98.0	97.5	96.8	96.3	95.8	95.3	94.7	94.2	93.7	93.3
77.5°	73.7	73.5	73.2	73.0	72.8	72.4	72.0	71.5	71.0	70.6	70.4
80°	58.8	58.5	58.2	57.9	57.6	57.3	57.1	56.9	56.7	56.5	56.1
82.5°	44.2	44.1	43.9	43.8	43.6	43.5	43.5	43.5	43.4	43.4	43.3
85°	25.9	25.9	25.9	25.9	25.9	25.8	25.4	25.2	25.0	24.8	24.8
87.5°	10.6	11.1	11.6	12.1	12.6	13.0	13.3	13.6	14.0	14.3	14.6
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	25.1	28.4	31.7	34.9	38.3	40.6	42.1	43.5	45.0	46.5	47.4
95°	70.4	72.7	75.1	77.5	79.8	81.9	83.7	85.5	87.4	89.2	90.0
97.5°	123.0	124.8	126.7	128.6	130.5	132.5	134.6	136.7	138.9	141.0	142.0
100°	164.3	165.3	166.3	167.3	168.4	170.2	172.5	174.8	177.1	179.6	180.1
102.5°	207.4	207.8	208.2	208.6	209.1	210.4	212.5	214.7	216.8	218.9	219.6
105°	273.4	273.7	273.9	274.2	274.4	275.1	276.1	277.1	278.2	279.2	280.0
107.5°	342.5	343.0	343.3	343.6	343.9	344.1	344.3	344.4	344.6	344.7	345.5
110°	389.5	390.0	390.5	391.1	391.6	391.7	391.5	391.2	390.9	390.7	390.2



TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	438.3	438.5	438.6	438.7	438.8	438.6	438.1	437.7	437.2	436.7	436.6
115°	511.5	511.5	511.5	511.5	511.5	511.3	510.8	510.3	509.7	509.2	509.0
117.5°	580.6	580.8	581.0	581.2	581.4	581.3	580.9	580.6	580.2	579.9	579.0
120°	626.5	627.5	628.6	629.7	630.7	630.9	630.1	629.2	628.4	627.7	626.4
122.5°	674.4	674.8	675.2	675.6	676.1	676.1	675.7	675.4	675.0	674.6	673.8
125°	745.0	745.0	745.0	745.0	745.0	744.9	744.7	744.4	744.1	743.9	743.4
127.5°	809.1	809.9	810.6	811.4	812.2	812.4	811.9	811.5	811.1	810.7	810.2
130°	854.1	855.0	855.7	856.5	857.3	857.7	857.7	857.7	857.7	857.7	857.2
132.5°	900.1	900.7	901.3	901.8	902.4	902.6	902.4	902.2	902.0	901.8	901.2
135°	960.9	962.5	964.0	965.6	967.1	968.0	968.0	968.0	968.0	968.0	967.5
137.5°	1027.0	1027.8	1028.5	1029.3	1030.0	1030.6	1031.0	1031.4	1031.8	1032.2	1031.6
140°	1071.2	1071.7	1072.3	1072.8	1073.3	1073.5	1073.5	1073.5	1073.5	1073.5	1073.3
142.5°	1111.6	1112.1	1112.6	1113.1	1113.7	1113.8	1113.6	1113.4	1113.2	1113.0	1112.9
145°	1167.4	1168.4	1169.5	1170.5	1171.5	1172.3	1172.5	1172.8	1173.0	1173.3	1173.0
147.5°	1222.7	1224.1	1225.3	1226.5	1227.8	1228.3	1228.1	1227.9	1227.7	1227.5	1227.3
150°	1256.6	1257.6	1258.7	1259.7	1260.7	1261.2	1261.2	1261.2	1261.2	1261.2	1261.2
152.5°	1288.5	1289.1	1289.7	1290.3	1291.0	1291.4	1291.6	1291.8	1292.0	1292.2	1292.8
155°	1337.5	1337.5	1337.5	1337.5	1337.5	1337.4	1337.2	1336.9	1336.6	1336.4	1337.4
157.5°	1378.8	1378.4	1377.9	1377.5	1377.0	1376.6	1376.6	1376.5	1376.5	1376.4	1377.3
160°	1403.2	1403.0	1402.7	1402.4	1402.2	1401.9	1401.7	1401.4	1401.1	1400.9	1401.7
162.5°	1425.7	1425.0	1424.4	1423.7	1423.0	1422.6	1422.3	1422.1	1421.8	1421.5	1422.9
165°	1456.0	1455.2	1454.4	1453.7	1452.9	1452.2	1451.7	1451.2	1450.7	1450.2	1451.7
167.5°	1479.3	1478.1	1477.0	1475.9	1474.9	1474.3	1474.4	1474.4	1474.5	1474.5	1476.1
170°	1492.4	1491.1	1489.8	1488.4	1487.1	1486.6	1486.9	1487.1	1487.4	1487.7	1489.2
172.5°	1501.8	1500.7	1499.5	1498.4	1497.4	1496.8	1496.9	1497.0	1497.0	1497.1	1498.8
175°	1514.7	1513.4	1512.1	1510.8	1509.4	1508.6	1508.4	1508.1	1507.9	1507.6	1509.4
177.5°	1518.9	1517.8	1516.8	1515.8	1514.7	1514.2	1514.2	1514.2	1514.2	1514.2	1515.7
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0



TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	594.4	595.3	596.1	596.5	596.4	596.3	596.2	596.1
5°	591.3	592.4	593.6	594.0	593.8	593.6	593.4	593.2
7.5°	584.6	585.6	586.5	586.9	586.8	586.6	586.5	586.4
10°	579.2	580.0	580.9	581.2	581.0	580.7	580.5	580.3
12.5°	572.4	573.3	574.3	574.6	574.3	574.0	573.7	573.4
15°	559.6	560.2	560.9	561.0	560.7	560.4	560.1	559.8
17.5°	544.9	545.3	545.7	545.8	545.6	545.4	545.2	545.0
20°	534.1	534.4	534.7	534.8	534.5	534.3	534.1	533.9
22.5°	522.7	523.3	523.9	524.0	523.6	523.2	522.8	522.5
25°	504.0	504.1	504.2	504.1	503.6	503.2	502.8	502.4
27.5°	483.0	482.8	482.5	482.1	481.6	481.1	480.5	480.0
30°	468.6	468.2	467.7	467.3	466.7	466.2	465.6	465.1
32.5°	453.8	453.3	452.8	452.3	451.8	451.2	450.7	450.2
35°	430.6	429.9	429.1	428.5	428.0	427.5	426.9	426.4
37.5°	406.3	405.5	404.7	403.9	403.2	402.5	401.8	401.1
40°	389.4	388.3	387.3	386.5	385.9	385.4	384.9	384.4
42.5°	372.9	371.7	370.5	369.7	369.3	369.0	368.6	368.3
45°	347.6	346.4	345.3	344.5	344.2	343.9	343.6	343.3
47.5°	323.0	321.6	320.3	319.3	318.5	317.7	316.9	316.1
50°	305.8	304.4	302.9	301.7	301.1	300.5	299.8	299.2
52.5°	288.2	286.9	285.6	284.5	283.7	282.9	282.1	281.2
55°	262.3	260.9	259.7	258.7	258.1	257.5	256.8	256.2
57.5°	236.3	235.1	233.9	233.0	232.4	231.8	231.2	230.5
60°	218.4	217.5	216.5	215.8	215.3	214.7	214.2	213.7
62.5°	201.1	200.2	199.2	198.5	198.0	197.5	197.0	196.4
65°	175.7	174.6	173.6	172.8	172.3	171.7	171.2	170.7
67.5°	149.6	148.6	147.5	146.9	146.8	146.6	146.5	146.3
70°	133.1	132.3	131.4	130.8	130.5	130.2	129.9	129.6
72.5°	116.6	115.9	115.2	114.7	114.4	114.1	113.8	113.5
75°	92.8	92.4	92.0	91.7	91.6	91.5	91.4	91.3
77.5°	70.3	70.2	70.1	69.9	69.6	69.3	69.0	68.8
80°	55.9	55.7	55.5	55.4	55.2	55.1	55.0	54.9
82.5°	43.1	43.0	42.9	42.8	42.7	42.5	42.4	42.3
85°	24.8	24.8	24.8	24.8	24.7	24.6	24.4	24.3
87.5°	14.9	15.2	15.6	15.8	15.9	16.1	16.2	16.3
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	48.4	49.3	50.2	50.8	51.2	51.5	51.8	52.1
95°	90.7	91.5	92.3	92.7	92.7	92.7	92.7	92.7
97.5°	142.9	143.8	144.8	145.2	145.2	145.2	145.2	145.2
100°	180.6	181.1	181.6	181.9	181.9	181.9	181.9	181.9
102.5°	220.4	221.2	221.9	222.3	222.6	222.8	223.0	223.2
105°	280.8	281.6	282.4	283.2	284.0	284.7	285.5	286.3
107.5°	346.2	346.9	347.6	348.0	347.9	347.9	347.8	347.8
110°	389.6	389.1	388.6	388.7	389.5	390.3	391.1	391.8





TEST NUMBER: P332533-840

CATALOG NUMBER: S124DIP-S350D1205U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	436.5	436.4	436.3	436.3	436.5	436.6	436.8	437.0
115°	508.7	508.4	508.2	507.9	507.7	507.4	507.2	506.9
117.5°	578.0	577.1	576.2	575.6	575.0	574.5	574.0	573.5
120°	625.1	623.8	622.5	622.1	622.6	623.1	623.7	624.2
122.5°	672.9	672.0	671.1	670.1	669.2	668.3	667.3	666.4
125°	742.8	742.3	741.7	741.2	740.7	740.2	739.6	739.1
127.5°	809.7	809.2	808.6	808.2	807.8	807.3	806.9	806.5
130°	856.6	856.1	855.6	854.7	853.7	852.7	851.6	850.6
132.5°	900.7	900.2	899.7	899.2	898.8	898.4	898.0	897.6
135°	966.9	966.3	965.8	965.2	964.4	963.6	962.8	962.1
137.5°	1030.9	1030.2	1029.6	1029.3	1029.5	1029.6	1029.8	1029.9
140°	1073.0	1072.8	1072.5	1072.3	1072.0	1071.7	1071.5	1071.2
142.5°	1112.9	1112.8	1112.8	1112.7	1112.7	1112.6	1112.6	1112.5
145°	1172.8	1172.5	1172.3	1171.6	1170.9	1170.1	1169.3	1168.6
147.5°	1227.1	1226.9	1226.6	1226.4	1226.2	1225.9	1225.6	1225.4
150°	1261.2	1261.2	1261.2	1261.1	1260.8	1260.6	1260.3	1260.1
152.5°	1293.4	1294.1	1294.7	1294.7	1294.0	1293.3	1292.6	1292.0
155°	1338.5	1339.5	1340.5	1340.5	1339.5	1338.5	1337.4	1336.4
157.5°	1378.1	1378.8	1379.6	1379.6	1378.7	1377.8	1376.8	1376.0
160°	1402.4	1403.2	1404.0	1403.7	1402.4	1401.1	1399.9	1398.6
162.5°	1424.3	1425.7	1427.1	1427.2	1425.9	1424.6	1423.3	1422.0
165°	1453.3	1454.8	1456.4	1456.6	1455.6	1454.6	1453.5	1452.5
167.5°	1477.6	1479.3	1480.8	1480.8	1479.1	1477.5	1475.9	1474.3
170°	1490.9	1492.4	1494.0	1493.8	1492.0	1490.2	1488.3	1486.5
172.5°	1500.7	1502.4	1504.2	1504.2	1502.3	1500.5	1498.6	1496.8
175°	1511.3	1513.1	1514.9	1514.9	1513.1	1511.3	1509.4	1507.6
177.5°	1517.1	1518.6	1520.0	1519.9	1518.2	1516.6	1514.9	1513.3
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0

(END OF REPORT)