

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: P332741-927

Luminaire Tested: **S124DIW-S350D1560U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332741-927
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: S124DIW-S350D1560U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6086.8 lumens
Efficiency: N/A
Efficacy: 114.0 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

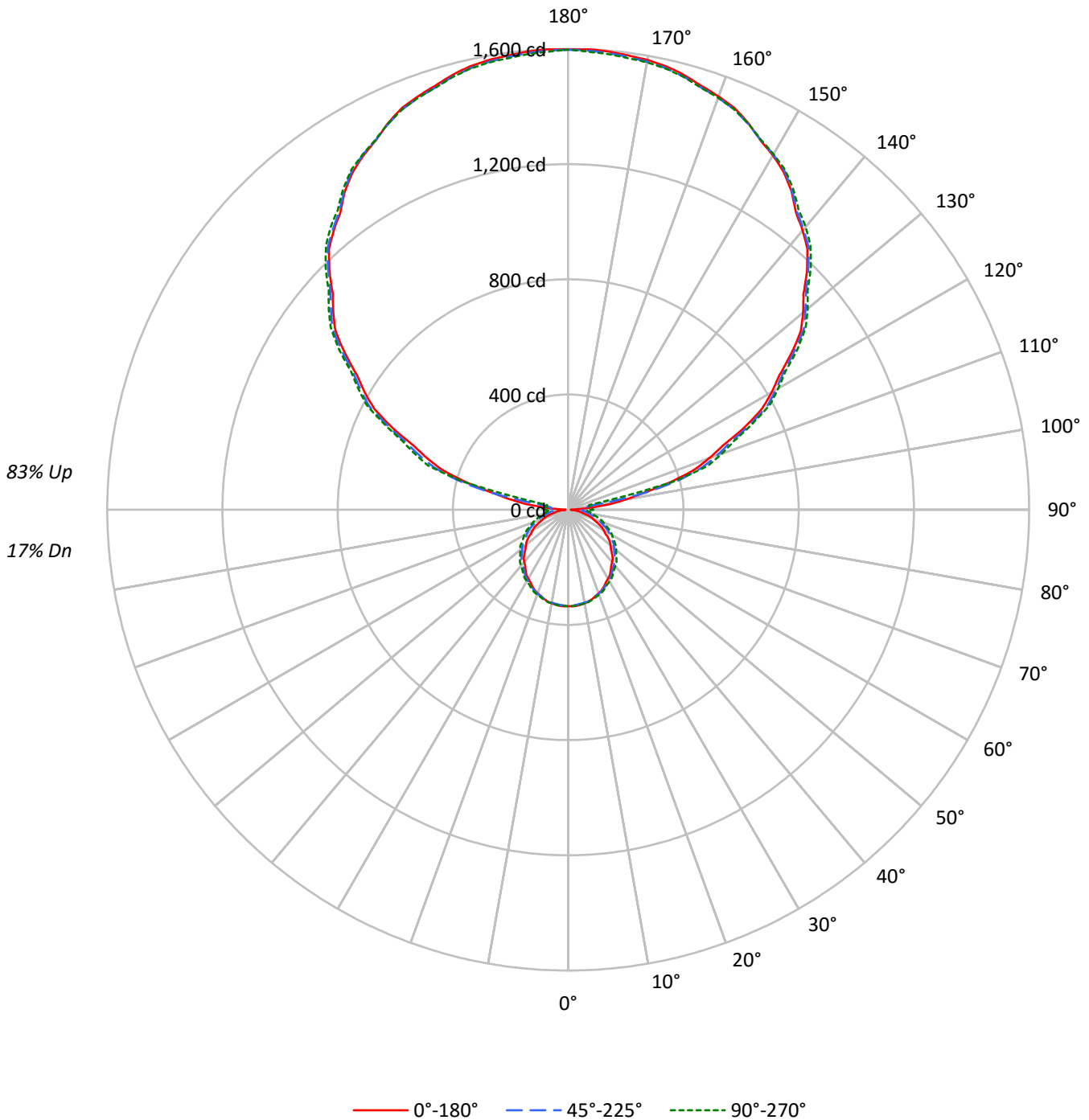
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332741-927

CATALOG NUMBER: S124DIW-S350D1560U927-4F0-1E-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	50	30	10	0	
RCR																						
0	99	99	99	99	87	87	87	87	65	65	65	45	45	45	26	26	26	17				17
1	90	86	82	79	79	76	72	70	56	54	52	39	38	36	22	22	21	14				14
2	82	75	69	64	72	66	61	57	49	46	43	34	32	30	20	19	18	11				11
3	74	65	58	53	65	58	52	47	43	39	36	30	27	25	17	16	15	9				9
4	68	58	50	44	59	51	45	40	38	34	30	26	24	21	15	14	13	8				8
5	62	51	43	38	54	45	39	34	34	29	26	23	21	18	14	12	11	7				7
6	57	46	38	32	50	40	34	29	30	26	22	21	18	16	12	11	9	6				6
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	11	10	8	5				5
8	49	37	29	24	43	33	26	22	25	20	17	17	14	12	10	9	7	5				5
9	45	33	26	21	40	30	24	19	23	18	15	16	13	11	9	8	7	4				4
10	42	30	24	19	37	27	21	17	21	16	13	14	12	10	9	7	6	4				4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	0.5
10°-20°	90.8	1.5
20°-30°	137.4	2.3
30°-40°	166.2	2.7
40°-50°	175.7	2.9
50°-60°	165.4	2.7
60°-70°	137.2	2.3
70°-80°	96.4	1.6
80°-90°	59.1	1.0
90°-100°	87.0	1.4
100°-110°	372.2	6.1
110°-120°	682.4	11.2
120°-130°	854.9	14.0
130°-140°	908.9	14.9
140°-150°	847.1	13.9
150°-160°	682.5	11.2
160°-170°	440.2	7.2
170°-180°	151.7	2.5
0°-30°	259.9	4.3
0°-40°	426.1	7.0
0°-60°	767.2	12.6
0°-90°	1059.9	17.4
90°-120°	1141.6	18.8
90°-150°	3752.5	61.7
90°-180°	5027.0	82.6
0°-180°	6086.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	10	38	63	81	87	7
95°	71	45	59	76	81	88
105°	363	378	397	414	378	380
115°	674	681	691	702	705	663
125°	945	950	957	967	971	844
135°	1172	1171	1178	1186	1191	902
145°	1350	1353	1354	1357	1361	844
155°	1480	1481	1478	1482	1479	682
165°	1561	1556	1555	1564	1554	441
175°	1597	1591	1591	1601	1588	152
180°	1597	1597	1597	1597	1597	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.8	15.8	19.8	23.8	27.7	31.8	35.9	39.9	44.0	48.1	50.8
90°	9.6	15.8	22.1	28.4	34.6	40.6	46.3	52.0	57.7	63.4	67.4
92.5°	20.8	23.9	27.1	30.3	33.4	37.8	43.5	49.3	55.0	60.7	64.6
95°	70.6	64.3	58.0	51.7	45.5	44.2	47.8	51.6	55.2	58.9	62.7
97.5°	143.9	151.9	159.9	167.9	175.9	166.8	140.5	114.3	88.1	61.9	64.2
100°	200.0	207.0	214.0	220.9	227.8	214.6	181.3	147.8	114.5	81.0	78.8
102.5°	263.1	268.5	273.9	279.3	284.7	286.6	285.0	283.4	281.9	280.3	233.8
105°	363.0	366.2	369.5	372.7	376.0	379.9	384.2	388.6	393.1	397.4	402.0
107.5°	456.3	458.4	460.7	462.8	464.9	468.4	473.1	477.8	482.6	487.3	490.5
110°	519.1	521.0	523.0	525.0	527.0	530.2	534.6	539.2	543.7	548.2	550.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	580.0	582.4	584.9	587.3	589.8	592.8	596.4	599.8	603.4	606.9	608.6
115°	673.7	675.2	676.8	678.3	679.9	681.8	684.2	686.6	689.0	691.4	693.8
117.5°	758.4	759.9	761.4	763.0	764.5	766.8	769.8	772.9	775.9	779.0	780.6
120°	815.4	816.7	818.1	819.4	820.7	822.4	824.6	826.7	828.9	831.0	833.2
122.5°	868.9	869.7	870.3	871.0	871.7	873.4	876.0	878.7	881.3	884.0	886.0
125°	945.2	946.3	947.2	948.2	949.2	950.5	952.0	953.5	955.1	956.6	959.0
127.5°	1017.8	1018.0	1018.2	1018.4	1018.6	1020.1	1022.9	1025.7	1028.5	1031.3	1032.7
130°	1064.4	1064.5	1064.7	1064.9	1065.1	1066.3	1068.3	1070.5	1072.6	1074.8	1076.5
132.5°	1107.4	1107.8	1108.2	1108.6	1109.0	1110.2	1112.2	1114.4	1116.4	1118.5	1120.1
135°	1171.5	1171.2	1171.0	1170.7	1170.4	1171.2	1172.7	1174.4	1176.1	1177.7	1179.6
137.5°	1228.6	1228.6	1228.7	1228.7	1228.7	1229.5	1230.9	1232.3	1233.8	1235.2	1237.1
140°	1265.9	1266.3	1266.8	1267.3	1267.7	1268.2	1268.8	1269.4	1270.0	1270.7	1272.6
142.5°	1299.0	1300.0	1300.9	1301.9	1302.7	1303.4	1303.6	1303.9	1304.2	1304.5	1306.0
145°	1350.4	1351.1	1351.8	1352.5	1353.2	1353.5	1353.5	1353.5	1353.5	1353.5	1354.3
147.5°	1391.2	1392.6	1394.0	1395.3	1396.8	1397.3	1397.1	1396.9	1396.5	1396.3	1396.5
150°	1420.8	1421.8	1422.8	1423.7	1424.7	1425.1	1424.8	1424.6	1424.3	1424.0	1424.0
152.5°	1445.3	1446.2	1447.0	1447.9	1448.7	1448.9	1448.3	1447.9	1447.4	1446.9	1447.4
155°	1480.2	1480.4	1480.7	1481.0	1481.2	1481.0	1480.2	1479.4	1478.6	1477.7	1478.8
157.5°	1509.6	1509.4	1509.3	1509.1	1508.9	1508.4	1507.4	1506.6	1505.7	1504.8	1506.2
160°	1526.8	1526.0	1525.2	1524.4	1523.6	1523.0	1522.7	1522.5	1522.3	1521.9	1523.6
162.5°	1542.1	1541.0	1540.0	1539.1	1538.0	1537.4	1537.1	1536.8	1536.6	1536.3	1537.9
165°	1561.4	1560.0	1558.8	1557.4	1556.1	1555.4	1555.4	1555.4	1555.4	1555.4	1557.5
167.5°	1576.7	1575.3	1573.9	1572.6	1571.1	1570.4	1570.3	1570.1	1569.9	1569.8	1572.1
170°	1585.3	1583.7	1582.1	1580.5	1578.9	1578.3	1578.5	1578.8	1579.1	1579.3	1581.4
172.5°	1591.0	1589.4	1587.9	1586.3	1584.7	1584.0	1584.3	1584.5	1584.8	1585.1	1587.1
175°	1597.2	1595.6	1594.0	1592.4	1590.9	1590.2	1590.5	1590.7	1591.0	1591.3	1593.6
177.5°	1600.1	1598.6	1597.1	1595.6	1594.2	1593.6	1594.0	1594.5	1594.9	1595.3	1597.0
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	53.6	56.2	59.0	60.8	61.6	62.5	63.3	64.2
90°	71.5	75.4	79.5	82.1	83.3	84.4	85.6	86.8
92.5°	68.5	72.5	76.4	78.7	79.5	80.3	81.1	81.8
95°	66.6	70.4	74.3	76.7	77.7	78.7	79.8	80.8
97.5°	66.5	68.8	71.2	72.9	73.8	74.9	75.8	76.8
100°	76.5	74.3	72.0	71.3	72.2	73.0	73.8	74.7
102.5°	187.3	140.8	94.3	71.4	72.0	72.7	73.4	74.1
105°	406.4	410.9	415.3	413.1	404.3	395.4	386.5	377.6
107.5°	493.7	496.9	500.2	502.6	504.1	505.8	507.4	509.0
110°	553.1	555.6	558.0	560.0	561.4	562.8	564.4	565.8



TEST NUMBER: P332741-927

CATALOG NUMBER: S124DIW-S350D1560U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	610.4	612.1	613.9	615.6	617.3	618.9	620.6	622.3
115°	696.1	698.5	700.8	702.3	702.9	703.5	704.1	704.6
117.5°	782.3	783.9	785.5	786.6	787.1	787.7	788.3	788.9
120°	835.4	837.6	839.8	841.0	841.1	841.2	841.4	841.5
122.5°	888.0	889.9	891.9	892.9	893.0	893.1	893.2	893.3
125°	961.4	963.8	966.1	967.7	968.5	969.3	970.0	970.8
127.5°	1034.0	1035.4	1036.7	1037.5	1037.9	1038.2	1038.6	1038.9
130°	1078.3	1080.1	1081.8	1083.0	1083.5	1083.9	1084.4	1085.0
132.5°	1121.9	1123.6	1125.3	1126.2	1126.6	1126.9	1127.1	1127.4
135°	1181.5	1183.3	1185.2	1186.6	1187.6	1188.7	1189.7	1190.7
137.5°	1238.8	1240.6	1242.5	1243.5	1243.7	1244.0	1244.2	1244.5
140°	1274.4	1276.3	1278.2	1279.5	1280.2	1280.8	1281.5	1282.1
142.5°	1307.5	1309.1	1310.6	1311.5	1311.9	1312.4	1312.8	1313.2
145°	1355.0	1355.8	1356.6	1357.4	1358.3	1359.1	1360.0	1360.9
147.5°	1396.9	1397.2	1397.4	1397.8	1398.4	1398.9	1399.4	1399.9
150°	1424.0	1424.0	1424.0	1424.2	1424.4	1424.7	1425.0	1425.2
152.5°	1447.8	1448.2	1448.7	1448.7	1448.6	1448.4	1448.3	1448.1
155°	1479.9	1481.0	1482.0	1482.2	1481.4	1480.6	1479.8	1479.0
157.5°	1507.5	1508.9	1510.3	1510.3	1508.9	1507.5	1506.2	1504.8
160°	1525.2	1526.8	1528.4	1528.4	1526.8	1525.2	1523.6	1521.9
162.5°	1539.5	1541.1	1542.7	1542.5	1540.8	1539.0	1537.2	1535.3
165°	1559.6	1561.8	1563.9	1563.8	1561.4	1559.0	1556.6	1554.3
167.5°	1574.5	1576.8	1579.1	1579.0	1576.3	1573.7	1571.0	1568.4
170°	1583.6	1585.7	1587.9	1587.5	1584.9	1582.2	1579.6	1576.9
172.5°	1589.3	1591.4	1593.6	1593.2	1590.3	1587.5	1584.6	1581.7
175°	1596.0	1598.5	1600.8	1600.4	1597.2	1594.0	1590.9	1587.7
177.5°	1598.7	1600.4	1602.1	1601.7	1599.2	1596.6	1594.0	1591.5
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2

(END OF REPORT)