

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: P332744-930

Luminaire Tested: **S124DIW-S350D1560U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332744-930
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: S124DIW-S350D1560U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5650.7 lumens
Efficiency: N/A
Efficacy: 105.8 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

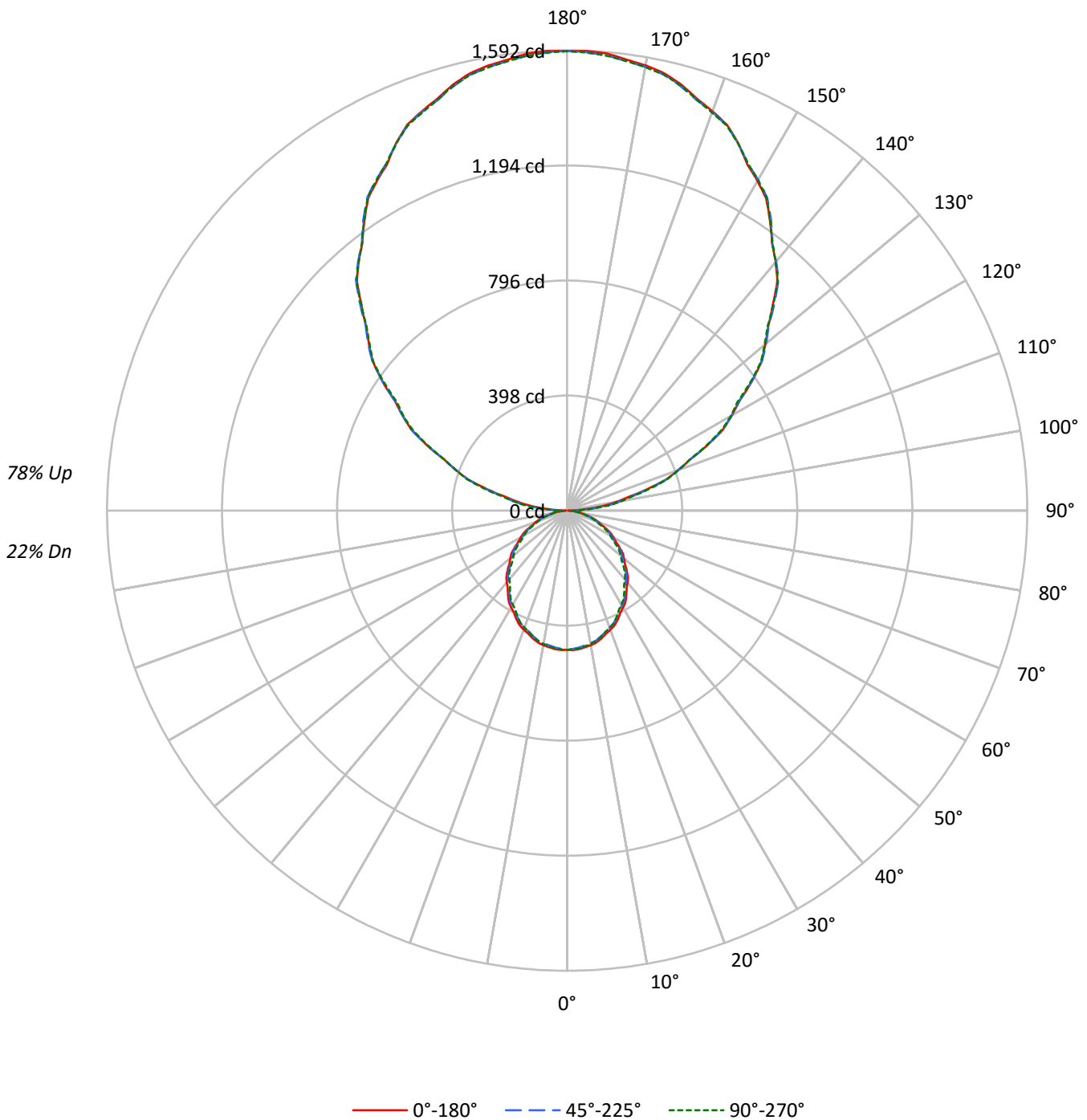
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-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	50	30	10	0	
RCR																						
0	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22				
1	91	87	84	80	81	77	74	72	59	57	55	42	41	40	27	26	25	18				
2	83	76	70	65	74	68	63	59	52	48	46	37	35	33	23	22	21	15				
3	76	67	60	54	67	59	54	49	46	42	38	33	30	28	21	19	18	13				
4	69	59	52	46	61	53	46	41	40	36	32	29	26	24	19	17	16	11				
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14	10				
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12	9				
7	54	42	34	29	47	38	31	26	29	24	21	21	18	16	14	12	11	8				
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9	7				
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	8	6				
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3888	3888	3888
5°	3900	3853	3881
10°	3875	3822	3841
15°	3828	3768	3777
20°	3766	3699	3703
25°	3695	3624	3613
30°	3608	3533	3500
35°	3517	3438	3392
40°	3424	3331	3270
45°	3327	3225	3164
50°	3218	3131	3034
55°	3102	3009	2911
60°	2984	2872	2785
65°	2854	2743	2632
70°	2705	2568	2469
75°	2480	2361	2299
80°	2208	2120	2064
85°	1936	1862	1815



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	0.8
10°-20°	127.8	2.3
20°-30°	188.1	3.3
30°-40°	218.7	3.9
40°-50°	218.7	3.9
50°-60°	191.3	3.4
60°-70°	142.1	2.5
70°-80°	80.7	1.4
80°-90°	28.0	0.5
90°-100°	104.8	1.9
100°-110°	310.6	5.5
110°-120°	527.1	9.3
120°-130°	695.1	12.3
130°-140°	780.6	13.8
140°-150°	767.1	13.6
150°-160°	645.2	11.4
160°-170°	429.2	7.6
170°-180°	150.3	2.7
0°-30°	361.2	6.4
0°-40°	579.9	10.3
0°-60°	989.8	17.5
0°-90°	1240.6	22.0
90°-120°	942.5	16.7
90°-150°	3185.3	56.4
90°-180°	4410.0	78.0
0°-180°	5650.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	481	480	475	479	479	46
15°	458	456	451	453	452	129
25°	415	412	407	407	406	191
35°	357	354	349	346	344	223
45°	291	288	282	278	277	225
55°	220	219	214	209	207	197
65°	149	147	144	140	138	148
75°	80	78	76	74	74	84
85°	21	21	20	20	20	23
90°	4	17	27	34	37	6
95°	74	85	93	97	97	82
105°	286	288	293	296	300	304
115°	536	536	534	532	531	528
125°	781	781	779	777	774	695
135°	1007	1014	1014	1012	1008	779
145°	1223	1228	1229	1228	1224	765
155°	1401	1401	1400	1405	1400	645
165°	1526	1522	1520	1526	1522	430
175°	1587	1581	1580	1587	1580	151
180°	1590	1590	1590	1590	1590	



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	482.8	482.7	482.4	482.2	482.0	481.5	480.8	480.0	479.3	478.5	479.2
5°	481.2	480.9	480.5	480.2	479.9	479.2	478.3	477.4	476.4	475.4	476.4
7.5°	476.8	476.4	476.1	475.7	475.4	474.7	473.6	472.6	471.6	470.5	471.2
10°	472.7	472.4	472.1	471.7	471.4	470.7	469.5	468.4	467.3	466.2	466.8
12.5°	467.5	467.2	466.8	466.4	466.1	465.4	464.1	463.0	461.8	460.6	461.4
15°	458.0	457.7	457.4	457.1	456.7	455.9	454.6	453.3	452.0	450.8	451.3
17.5°	446.7	446.3	445.9	445.5	445.0	444.2	443.0	441.7	440.5	439.3	439.6
20°	438.4	438.0	437.6	437.1	436.7	435.9	434.6	433.3	431.9	430.6	431.0
22.5°	429.4	428.8	428.3	427.7	427.1	426.2	424.9	423.7	422.4	421.1	421.6
25°	414.8	414.3	413.7	413.0	412.5	411.6	410.3	409.1	408.0	406.8	406.8
27.5°	398.2	397.5	397.0	396.3	395.7	394.8	393.7	392.6	391.5	390.4	390.2
30°	387.1	386.4	385.7	385.0	384.3	383.4	382.3	381.2	380.1	379.0	378.6
32.5°	375.4	374.7	374.1	373.5	372.8	371.9	370.8	369.6	368.4	367.2	366.8
35°	356.9	356.4	355.8	355.1	354.6	353.7	352.5	351.2	350.1	348.9	348.3
37.5°	337.6	337.0	336.5	336.0	335.4	334.5	333.2	331.9	330.6	329.3	328.6
40°	324.9	324.2	323.6	322.9	322.2	321.2	319.9	318.6	317.3	316.1	315.2
42.5°	311.4	311.0	310.5	310.1	309.7	308.8	307.4	305.9	304.5	303.1	302.1
45°	291.4	290.7	290.2	289.6	288.9	288.0	286.6	285.2	283.9	282.5	281.5
47.5°	270.4	270.0	269.6	269.2	268.8	268.0	266.7	265.4	264.2	262.9	261.8
50°	256.2	255.9	255.6	255.2	254.9	254.1	252.9	251.7	250.5	249.3	248.1
52.5°	242.4	241.9	241.5	241.1	240.7	239.9	238.6	237.3	236.0	234.8	233.7
55°	220.4	220.1	219.8	219.6	219.3	218.6	217.4	216.2	215.0	213.8	212.8
57.5°	199.3	199.1	198.8	198.5	198.2	197.5	196.2	195.1	193.9	192.7	191.8
60°	184.8	184.4	184.0	183.5	183.1	182.4	181.2	180.1	179.0	177.9	177.2
62.5°	170.6	170.3	169.9	169.6	169.2	168.4	167.2	166.1	164.9	163.7	163.0
65°	149.4	149.0	148.5	148.1	147.7	147.0	146.1	145.3	144.4	143.6	142.7
67.5°	127.9	127.5	127.1	126.7	126.3	125.7	124.9	124.1	123.3	122.4	121.6
70°	114.6	114.0	113.4	112.8	112.2	111.5	110.9	110.2	109.5	108.8	108.1
72.5°	100.4	99.8	99.2	98.7	98.0	97.4	96.9	96.4	95.8	95.2	94.7
75°	79.5	79.1	78.7	78.2	77.8	77.4	77.0	76.5	76.1	75.7	75.3
77.5°	59.5	59.4	59.1	58.9	58.8	58.5	58.1	57.7	57.3	57.0	56.8
80°	47.5	47.2	47.0	46.7	46.5	46.2	46.1	45.9	45.7	45.6	45.3
82.5°	35.7	35.6	35.5	35.4	35.2	35.1	35.1	35.1	35.1	35.1	35.0
85°	20.9	20.9	20.9	20.9	20.9	20.8	20.5	20.4	20.2	20.1	20.1
87.5°	8.8	9.3	9.9	10.4	10.9	11.3	11.7	12.1	12.5	12.8	13.1
90°	3.7	6.7	9.7	12.7	15.7	18.3	20.5	22.7	24.9	27.1	28.7
92.5°	26.3	29.8	33.2	36.6	40.1	42.6	44.1	45.7	47.1	48.7	49.7
95°	73.8	76.2	78.7	81.1	83.6	85.8	87.7	89.6	91.6	93.4	94.2
97.5°	128.8	130.8	132.7	134.8	136.7	138.8	141.0	143.2	145.5	147.7	148.7
100°	172.1	173.2	174.3	175.4	176.5	178.2	180.8	183.2	185.6	188.1	188.7
102.5°	217.4	217.8	218.3	218.7	219.1	220.5	222.7	224.9	227.1	229.4	230.2
105°	286.4	286.7	287.0	287.2	287.6	288.2	289.3	290.4	291.5	292.6	293.4
107.5°	359.0	359.3	359.6	360.0	360.3	360.5	360.7	360.9	361.0	361.2	361.9
110°	408.1	408.7	409.2	409.8	410.3	410.5	410.2	409.9	409.6	409.4	408.8



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	459.3	459.4	459.5	459.6	459.7	459.5	459.0	458.5	458.0	457.5	457.5
115°	536.0	536.0	536.0	536.0	536.0	535.7	535.2	534.6	534.1	533.5	533.3
117.5°	608.3	608.5	608.7	608.9	609.2	609.1	608.7	608.3	607.9	607.6	606.6
120°	656.5	657.5	658.7	659.7	660.8	661.0	660.1	659.3	658.5	657.7	656.3
122.5°	706.6	707.0	707.5	707.9	708.3	708.4	708.0	707.6	707.3	706.9	706.0
125°	780.6	780.6	780.6	780.6	780.6	780.5	780.2	779.9	779.7	779.4	778.9
127.5°	847.7	848.6	849.4	850.2	851.0	851.3	850.8	850.4	849.9	849.5	848.9
130°	895.0	895.8	896.6	897.4	898.2	898.6	898.6	898.6	898.6	898.6	898.1
132.5°	943.1	943.8	944.4	944.9	945.6	945.7	945.5	945.3	945.1	944.9	944.4
135°	1006.8	1008.4	1010.1	1011.8	1013.4	1014.2	1014.2	1014.2	1014.2	1014.2	1013.7
137.5°	1076.2	1076.9	1077.7	1078.5	1079.2	1079.9	1080.3	1080.7	1081.2	1081.6	1080.8
140°	1122.4	1122.9	1123.5	1124.1	1124.5	1124.9	1124.9	1124.9	1124.9	1124.9	1124.5
142.5°	1164.7	1165.2	1165.8	1166.3	1166.9	1167.0	1166.8	1166.6	1166.4	1166.1	1166.1
145°	1223.2	1224.3	1225.4	1226.5	1227.6	1228.2	1228.5	1228.8	1229.1	1229.3	1229.1
147.5°	1281.2	1282.5	1283.9	1285.2	1286.5	1287.0	1286.8	1286.5	1286.4	1286.1	1285.9
150°	1316.6	1317.7	1318.8	1319.9	1321.0	1321.5	1321.5	1321.5	1321.5	1321.5	1321.5
152.5°	1350.1	1350.7	1351.4	1352.0	1352.7	1353.2	1353.3	1353.6	1353.8	1354.0	1354.6
155°	1401.4	1401.4	1401.4	1401.4	1401.4	1401.3	1401.0	1400.8	1400.5	1400.2	1401.3
157.5°	1444.7	1444.2	1443.7	1443.2	1442.8	1442.5	1442.4	1442.3	1442.3	1442.3	1443.1
160°	1470.3	1470.0	1469.7	1469.5	1469.2	1468.9	1468.7	1468.4	1468.1	1467.9	1468.7
162.5°	1493.9	1493.2	1492.5	1491.8	1491.0	1490.5	1490.3	1490.0	1489.7	1489.5	1490.9
165°	1525.6	1524.8	1524.0	1523.1	1522.3	1521.7	1521.1	1520.5	1520.0	1519.5	1521.1
167.5°	1550.0	1548.8	1547.7	1546.5	1545.4	1544.8	1544.9	1544.9	1545.0	1545.1	1546.7
170°	1563.7	1562.4	1561.0	1559.6	1558.3	1557.7	1558.0	1558.3	1558.5	1558.8	1560.4
172.5°	1573.5	1572.4	1571.2	1570.1	1569.0	1568.4	1568.5	1568.6	1568.6	1568.6	1570.5
175°	1587.1	1585.7	1584.4	1583.0	1581.6	1580.8	1580.5	1580.2	1580.0	1579.7	1581.6
177.5°	1591.5	1590.4	1589.3	1588.2	1587.1	1586.6	1586.6	1586.6	1586.6	1586.6	1588.1
180°	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	479.9	480.6	481.3	481.6	481.5	481.4	481.4	481.3
5°	477.4	478.3	479.2	479.6	479.4	479.2	479.1	478.9
7.5°	472.0	472.8	473.5	473.9	473.8	473.6	473.5	473.4
10°	467.6	468.2	469.0	469.2	469.0	468.8	468.6	468.5
12.5°	462.1	462.8	463.7	463.9	463.7	463.4	463.2	462.9
15°	451.8	452.2	452.8	452.9	452.7	452.4	452.2	451.9
17.5°	439.9	440.3	440.6	440.7	440.5	440.3	440.2	440.0
20°	431.2	431.5	431.7	431.8	431.5	431.4	431.2	431.0
22.5°	422.0	422.5	423.0	423.1	422.7	422.4	422.1	421.8
25°	406.9	407.0	407.1	407.0	406.6	406.3	405.9	405.6
27.5°	390.0	389.8	389.6	389.2	388.8	388.4	387.9	387.5
30°	378.3	378.0	377.6	377.2	376.7	376.3	375.9	375.5
32.5°	366.4	366.0	365.6	365.2	364.8	364.3	363.9	363.5
35°	347.6	347.1	346.4	345.9	345.5	345.1	344.6	344.2
37.5°	328.0	327.3	326.7	326.1	325.5	325.0	324.4	323.8
40°	314.4	313.5	312.7	312.0	311.5	311.1	310.7	310.3
42.5°	301.1	300.1	299.1	298.5	298.2	297.9	297.6	297.3
45°	280.6	279.6	278.8	278.1	277.9	277.6	277.4	277.1
47.5°	260.7	259.7	258.6	257.8	257.1	256.5	255.8	255.2
50°	246.9	245.7	244.5	243.6	243.1	242.6	242.1	241.6
52.5°	232.7	231.6	230.6	229.7	229.0	228.4	227.7	227.1
55°	211.7	210.7	209.7	208.9	208.4	207.9	207.3	206.8
57.5°	190.8	189.8	188.8	188.1	187.6	187.1	186.6	186.1
60°	176.3	175.6	174.8	174.2	173.8	173.3	172.9	172.5
62.5°	162.3	161.6	160.9	160.3	159.9	159.5	159.1	158.6
65°	141.9	141.0	140.1	139.5	139.1	138.6	138.2	137.8
67.5°	120.7	119.9	119.1	118.6	118.5	118.4	118.3	118.1
70°	107.5	106.8	106.1	105.6	105.3	105.1	104.8	104.6
72.5°	94.2	93.6	93.0	92.6	92.4	92.1	91.9	91.6
75°	74.9	74.6	74.3	74.0	73.9	73.9	73.8	73.7
77.5°	56.7	56.7	56.6	56.4	56.2	55.9	55.7	55.5
80°	45.2	45.0	44.8	44.8	44.6	44.5	44.4	44.4
82.5°	34.8	34.7	34.7	34.6	34.5	34.3	34.2	34.2
85°	20.1	20.1	20.1	20.1	20.0	19.9	19.7	19.6
87.5°	13.5	13.8	14.1	14.3	14.4	14.6	14.7	14.8
90°	30.3	32.0	33.6	34.7	35.2	35.8	36.4	36.9
92.5°	50.6	51.6	52.6	53.2	53.6	53.9	54.2	54.5
95°	95.1	95.9	96.7	97.1	97.1	97.1	97.1	97.1
97.5°	149.8	150.7	151.7	152.2	152.2	152.2	152.2	152.2
100°	189.1	189.7	190.3	190.5	190.5	190.5	190.5	190.5
102.5°	230.9	231.7	232.4	232.9	233.2	233.4	233.6	233.8
105°	294.2	295.1	295.9	296.7	297.5	298.3	299.1	299.9
107.5°	362.7	363.5	364.3	364.6	364.5	364.5	364.4	364.4
110°	408.3	407.7	407.2	407.3	408.1	409.0	409.8	410.6



TEST NUMBER: P332744-930

CATALOG NUMBER: S124DIW-S350D1560U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	457.3	457.2	457.1	457.1	457.3	457.5	457.6	457.8
115°	533.0	532.7	532.5	532.1	531.9	531.7	531.3	531.1
117.5°	605.7	604.8	603.8	603.1	602.5	602.0	601.4	600.9
120°	654.9	653.6	652.2	651.8	652.4	652.9	653.5	654.0
122.5°	705.0	704.1	703.2	702.2	701.2	700.3	699.3	698.3
125°	778.3	777.8	777.2	776.7	776.1	775.6	775.0	774.5
127.5°	848.4	847.8	847.3	846.8	846.4	846.0	845.5	845.1
130°	897.6	897.0	896.4	895.6	894.5	893.5	892.3	891.3
132.5°	943.8	943.2	942.6	942.2	941.8	941.3	940.9	940.4
135°	1013.1	1012.6	1012.0	1011.3	1010.5	1009.7	1008.9	1008.0
137.5°	1080.2	1079.5	1078.7	1078.5	1078.6	1078.8	1079.0	1079.1
140°	1124.3	1124.1	1123.7	1123.5	1123.2	1122.9	1122.7	1122.4
142.5°	1166.0	1166.0	1166.0	1165.9	1165.8	1165.8	1165.7	1165.6
145°	1228.8	1228.5	1228.2	1227.7	1226.9	1226.0	1225.2	1224.4
147.5°	1285.7	1285.5	1285.2	1285.0	1284.7	1284.5	1284.2	1283.9
150°	1321.5	1321.5	1321.5	1321.4	1321.1	1320.9	1320.6	1320.3
152.5°	1355.3	1355.9	1356.6	1356.6	1355.8	1355.2	1354.5	1353.7
155°	1402.4	1403.5	1404.6	1404.6	1403.5	1402.4	1401.3	1400.2
157.5°	1443.9	1444.7	1445.5	1445.4	1444.5	1443.7	1442.7	1441.8
160°	1469.5	1470.3	1471.1	1470.8	1469.5	1468.1	1466.7	1465.3
162.5°	1492.4	1493.9	1495.3	1495.4	1494.0	1492.7	1491.3	1490.0
165°	1522.7	1524.4	1526.0	1526.3	1525.2	1524.1	1523.0	1521.9
167.5°	1548.3	1550.0	1551.6	1551.6	1549.9	1548.2	1546.5	1544.7
170°	1562.1	1563.7	1565.4	1565.2	1563.3	1561.4	1559.5	1557.5
172.5°	1572.4	1574.2	1576.1	1576.1	1574.1	1572.2	1570.3	1568.4
175°	1583.6	1585.4	1587.4	1587.4	1585.4	1583.6	1581.6	1579.7
177.5°	1589.7	1591.1	1592.7	1592.6	1590.8	1589.1	1587.4	1585.6
180°	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5

(END OF REPORT)