

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: P333033

Luminaire Tested: **S124RDIW-S350D1560U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333033
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: S124RDIW-S350D1560U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7670.9 lumens
Efficiency: N/A
Efficacy: 143.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

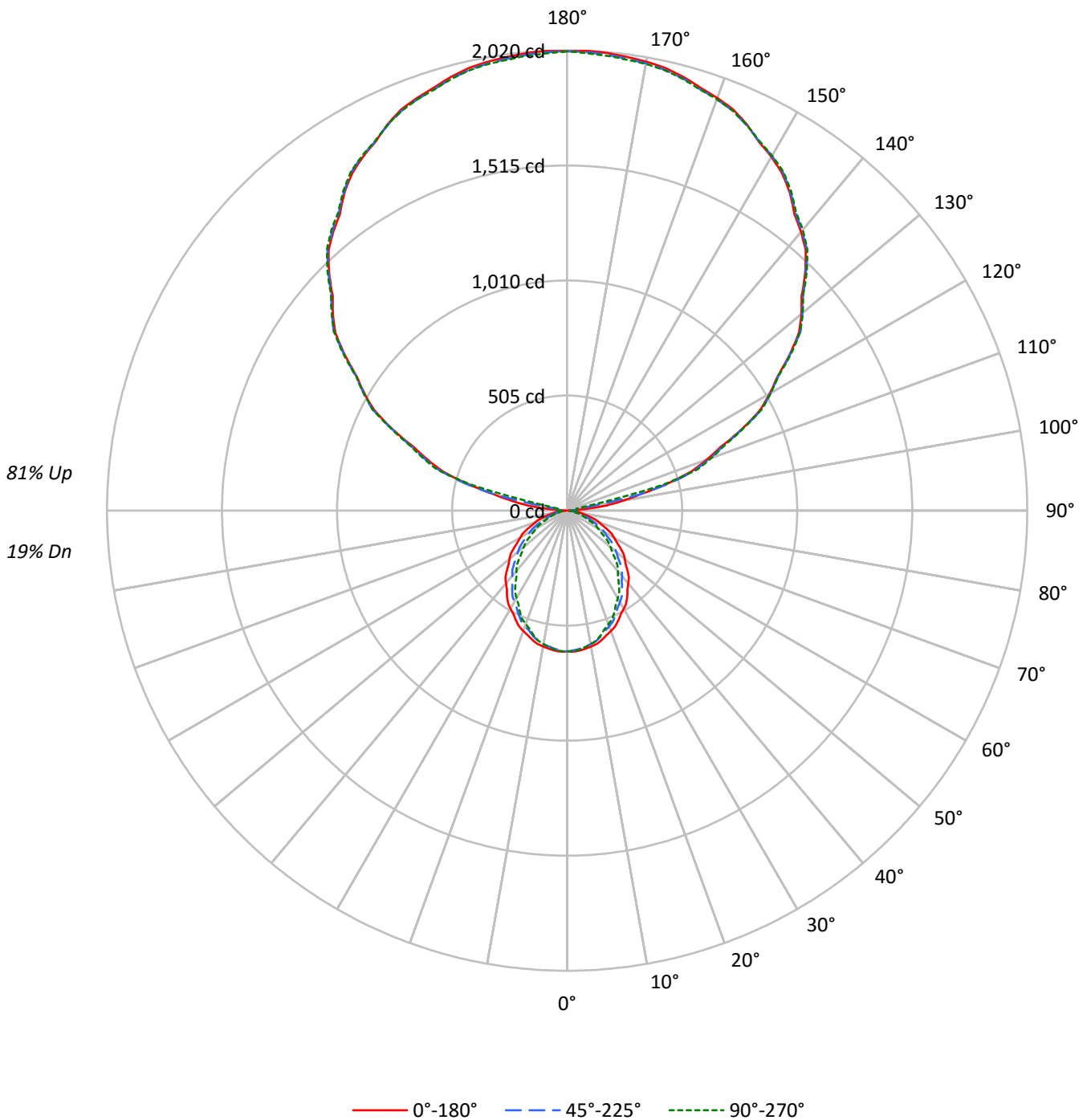
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0														
RCR																																						
0	100	100	100	100	88	88	88	88	66	66	66	46	46	46	27	27	27	19						19														
1	91	87	83	80	80	77	74	71	58	56	54	40	39	38	24	24	23	16						16														
2	83	76	70	65	73	67	62	58	51	47	45	35	34	32	21	20	20	13						13														
3	75	67	60	54	66	59	53	49	45	41	38	31	29	27	19	18	17	12						12														
4	69	59	51	46	61	52	46	41	40	35	32	28	25	23	17	16	15	10						10														
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	14	13	9						9														
6	58	47	39	34	51	42	35	30	32	27	24	23	20	17	14	12	11	8						8														
7	54	42	34	29	47	37	31	26	29	24	21	20	17	15	13	11	10	7						7														
8	50	38	31	26	44	34	28	23	26	21	18	19	16	14	12	10	9	6						6														
9	46	34	27	23	40	31	25	20	24	19	16	17	14	12	11	9	8	6						6														
10	43	31	25	20	38	28	22	18	22	17	14	16	13	11	10	8	7	5						5														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	0.8
10°-20°	161.9	2.1
20°-30°	233.8	3.0
30°-40°	265.1	3.5
40°-50°	255.9	3.3
50°-60°	212.8	2.8
60°-70°	147.0	1.9
70°-80°	74.5	1.0
80°-90°	24.9	0.3
90°-100°	69.0	0.9
100°-110°	439.7	5.7
110°-120°	841.1	11.0
120°-130°	1067.8	13.9
130°-140°	1142.4	14.9
140°-150°	1068.3	13.9
150°-160°	861.5	11.2
160°-170°	555.6	7.2
170°-180°	191.5	2.5
0°-30°	453.8	5.9
0°-40°	718.9	9.4
0°-60°	1187.7	15.5
0°-90°	1434.1	18.7
90°-120°	1349.8	17.6
90°-150°	4628.2	60.3
90°-180°	6237.0	81.3
0°-180°	7670.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	4	21	33	42	45	5
95°	83	35	33	42	44	107
105°	454	463	470	480	430	475
115°	848	852	850	853	854	834
125°	1191	1197	1194	1199	1200	1063
135°	1478	1477	1482	1485	1488	1138
145°	1704	1708	1709	1710	1713	1064
155°	1868	1870	1865	1871	1867	861
165°	1971	1964	1964	1974	1962	557
175°	2016	2008	2009	2021	2004	192
180°	2016	2016	2016	2016	2016	



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.6	9.7	9.7	9.8	9.9	10.1	10.6	11.0	11.5	11.9	12.3
90°	4.5	8.2	11.9	15.6	19.3	22.5	25.1	27.8	30.5	33.2	35.2
92.5°	19.0	19.2	19.4	19.6	19.8	21.2	23.9	26.6	29.3	32.0	34.0
95°	82.9	71.5	60.2	48.8	37.4	31.8	32.2	32.5	32.8	33.2	35.2
97.5°	176.1	183.2	190.3	197.5	204.6	189.4	152.0	114.6	77.2	39.8	40.0
100°	247.3	253.4	259.4	265.4	271.4	251.3	205.1	158.8	112.6	66.4	60.7
102.5°	326.9	331.4	335.8	340.2	344.6	343.8	337.8	331.8	325.7	319.7	258.2
105°	453.9	455.9	457.9	460.0	462.0	463.8	465.5	467.2	468.8	470.5	473.5
107.5°	571.8	572.9	573.9	574.9	575.9	577.5	579.8	582.1	584.3	586.6	588.1
110°	651.5	652.5	653.5	654.5	655.5	657.0	659.0	661.0	663.0	665.0	665.7



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	728.7	730.5	732.3	734.1	735.9	737.3	738.2	739.2	740.1	741.1	740.9
115°	847.5	848.5	849.5	850.5	851.5	851.9	851.5	851.2	850.9	850.5	851.2
117.5°	954.6	955.9	957.3	958.6	960.0	961.0	961.7	962.5	963.2	963.9	963.8
120°	1027.0	1028.3	1029.7	1031.0	1032.3	1032.8	1032.5	1032.2	1031.8	1031.5	1032.2
122.5°	1094.5	1095.3	1096.1	1096.9	1097.8	1098.4	1098.9	1099.3	1099.8	1100.3	1100.7
125°	1191.4	1192.7	1194.0	1195.4	1196.7	1197.0	1196.4	1195.7	1195.0	1194.4	1195.4
127.5°	1283.0	1283.4	1283.7	1284.0	1284.4	1285.3	1286.9	1288.4	1289.9	1291.5	1291.3
130°	1342.2	1342.5	1342.8	1343.2	1343.5	1344.2	1345.2	1346.2	1347.2	1348.2	1348.5
132.5°	1396.4	1397.0	1397.7	1398.3	1398.9	1399.8	1401.1	1402.3	1403.6	1404.9	1405.2
135°	1477.9	1477.5	1477.2	1476.9	1476.5	1477.0	1478.4	1479.7	1481.1	1482.4	1483.1
137.5°	1550.0	1550.1	1550.2	1550.4	1550.5	1551.3	1552.8	1554.3	1555.7	1557.2	1557.9
140°	1597.0	1597.7	1598.4	1599.0	1599.7	1600.4	1601.0	1601.7	1602.4	1603.0	1604.1
142.5°	1639.2	1640.4	1641.7	1642.9	1644.1	1644.9	1645.3	1645.7	1646.1	1646.5	1647.2
145°	1704.1	1705.1	1706.1	1707.1	1708.1	1708.6	1708.6	1708.6	1708.6	1708.6	1708.9
147.5°	1755.7	1757.5	1759.4	1761.3	1763.2	1763.9	1763.6	1763.6	1762.9	1762.6	1762.9
150°	1793.1	1794.4	1795.7	1797.1	1798.4	1798.9	1798.6	1798.3	1797.9	1797.6	1797.6
152.5°	1824.4	1825.5	1826.6	1827.6	1828.7	1829.0	1828.3	1827.7	1827.1	1826.5	1827.1
155°	1868.5	1868.8	1869.1	1869.5	1869.8	1869.5	1868.5	1867.5	1866.5	1865.4	1866.8
157.5°	1905.6	1905.4	1905.2	1905.0	1904.8	1904.1	1902.9	1901.8	1900.7	1899.5	1901.3
160°	1927.3	1926.3	1925.3	1924.3	1923.3	1922.6	1922.2	1921.9	1921.6	1921.2	1923.3
162.5°	1946.6	1945.3	1944.0	1942.8	1941.5	1940.7	1940.3	1940.0	1939.7	1939.3	1941.3
165°	1971.0	1969.3	1967.7	1966.0	1964.3	1963.5	1963.5	1963.5	1963.5	1963.5	1966.1
167.5°	1990.3	1988.6	1986.8	1985.1	1983.3	1982.4	1982.2	1982.0	1981.8	1981.6	1984.5
170°	2001.2	1999.2	1997.1	1995.1	1993.1	1992.3	1992.6	1993.0	1993.3	1993.6	1996.3
172.5°	2008.4	2006.4	2004.4	2002.4	2000.4	1999.5	1999.9	2000.2	2000.5	2000.9	2003.5
175°	2016.2	2014.2	2012.2	2010.2	2008.2	2007.4	2007.7	2008.0	2008.4	2008.7	2011.7
177.5°	2019.9	2018.0	2016.1	2014.2	2012.4	2011.7	2012.2	2012.8	2013.3	2013.8	2016.0
180°	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	12.6	12.9	13.2	13.5	13.7	13.9	14.1	14.3
90°	37.2	39.2	41.2	42.6	43.2	43.9	44.6	45.2
92.5°	36.0	38.0	40.0	41.1	41.2	41.4	41.5	41.6
95°	37.2	39.2	41.2	42.4	42.7	43.1	43.4	43.7
97.5°	40.2	40.4	40.6	40.9	41.2	41.6	41.9	42.2
100°	55.0	49.3	43.6	40.9	41.2	41.6	41.9	42.2
102.5°	196.8	135.3	73.9	43.2	43.2	43.3	43.4	43.4
105°	476.5	479.6	482.6	478.0	466.0	453.9	441.9	429.8
107.5°	589.6	591.1	592.5	593.9	595.2	596.4	597.7	599.0
110°	666.4	667.1	667.7	668.6	669.6	670.6	671.6	672.6



TEST NUMBER: P333033

CATALOG NUMBER: S124RDIW-S350D1560U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	740.8	740.6	740.5	741.1	742.4	743.6	744.9	746.2
115°	851.9	852.5	853.2	853.6	853.6	853.6	853.6	853.6
117.5°	963.7	963.5	963.4	963.3	963.1	963.0	962.9	962.7
120°	1032.8	1033.5	1034.2	1034.2	1033.5	1032.8	1032.2	1031.5
122.5°	1101.1	1101.5	1101.9	1101.7	1101.1	1100.4	1099.7	1099.1
125°	1196.4	1197.4	1198.4	1199.1	1199.4	1199.7	1200.1	1200.4
127.5°	1291.1	1290.9	1290.7	1290.4	1290.2	1289.9	1289.6	1289.4
130°	1348.9	1349.2	1349.5	1349.7	1349.7	1349.7	1349.7	1349.7
132.5°	1405.6	1405.9	1406.2	1406.3	1406.0	1405.7	1405.5	1405.2
135°	1483.7	1484.4	1485.1	1485.8	1486.4	1487.1	1487.8	1488.4
137.5°	1558.7	1559.4	1560.2	1560.4	1560.2	1560.0	1559.8	1559.6
140°	1605.1	1606.1	1607.1	1607.7	1608.1	1608.4	1608.7	1609.1
142.5°	1648.0	1648.7	1649.4	1649.8	1649.9	1650.0	1650.0	1650.1
145°	1709.3	1709.6	1709.9	1710.5	1711.1	1711.8	1712.5	1713.1
147.5°	1763.1	1763.4	1763.7	1764.0	1764.3	1764.6	1765.0	1765.3
150°	1797.6	1797.6	1797.6	1797.8	1798.1	1798.4	1798.8	1799.1
152.5°	1827.6	1828.1	1828.7	1828.8	1828.6	1828.4	1828.2	1828.0
155°	1868.1	1869.5	1870.8	1871.0	1870.0	1869.0	1868.0	1867.0
157.5°	1903.0	1904.8	1906.5	1906.5	1904.8	1903.0	1901.3	1899.5
160°	1925.3	1927.3	1929.3	1929.3	1927.3	1925.3	1923.3	1921.2
162.5°	1943.4	1945.4	1947.4	1947.2	1945.0	1942.7	1940.4	1938.1
165°	1968.8	1971.5	1974.2	1974.0	1971.0	1968.0	1965.0	1962.0
167.5°	1987.5	1990.4	1993.4	1993.2	1989.8	1986.5	1983.1	1979.8
170°	1999.0	2001.7	2004.4	2004.0	2000.7	1997.3	1994.0	1990.6
172.5°	2006.2	2008.9	2011.6	2011.1	2007.5	2003.9	2000.3	1996.6
175°	2014.7	2017.8	2020.8	2020.3	2016.2	2012.2	2008.2	2004.2
177.5°	2018.1	2020.3	2022.4	2021.9	2018.7	2015.4	2012.2	2009.0
180°	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2	2016.2

(END OF REPORT)