

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: P332146

Luminaire Tested: **S123DIW-S560D1535U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332146
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D1535U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8505.1 lumens
Efficiency: N/A
Efficacy: 140.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

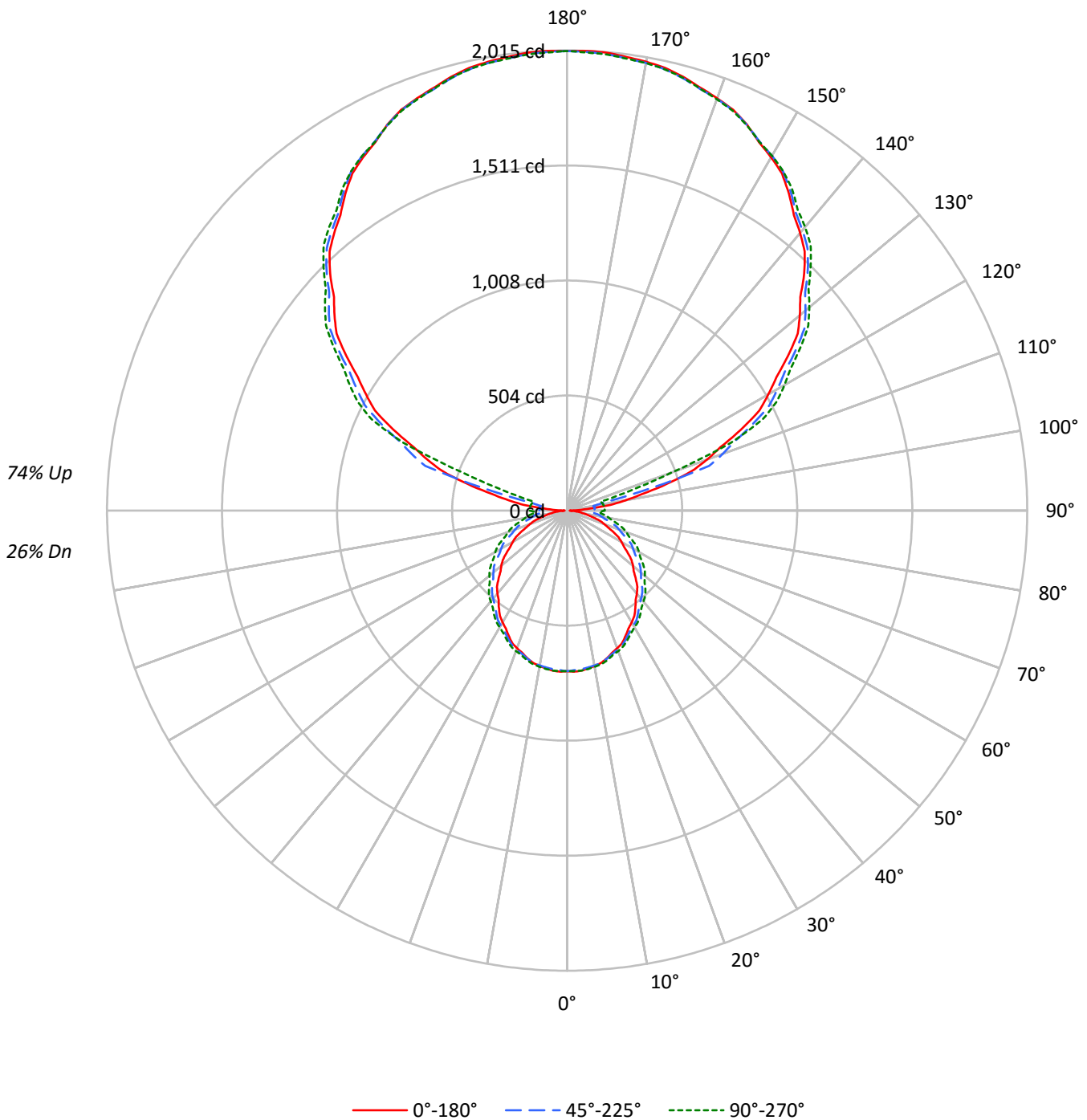
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-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	0
RCR																		
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	87	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27	20
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23	17
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	19	14
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	46	40	35	36	31	28	26	23	21	17	16	14	10
6	58	46	38	33	52	42	35	30	32	27	24	24	20	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	14	12	11	8
8	50	38	30	25	44	34	27	23	26	22	18	20	16	14	13	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	14	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	0.8
10°-20°	190.0	2.2
20°-30°	284.2	3.3
30°-40°	339.4	4.0
40°-50°	355.1	4.2
50°-60°	333.2	3.9
60°-70°	278.3	3.3
70°-80°	199.1	2.3
80°-90°	124.4	1.5
90°-100°	147.7	1.7
100°-110°	403.4	4.7
110°-120°	874.1	10.3
120°-130°	1087.4	12.8
130°-140°	1148.9	13.5
140°-150°	1067.6	12.6
150°-160°	859.6	10.1
160°-170°	554.7	6.5
170°-180°	191.2	2.2
0°-30°	540.9	6.4
0°-40°	880.3	10.4
0°-60°	1568.7	18.4
0°-90°	2170.6	25.5
90°-120°	1425.2	16.8
90°-150°	4729.1	55.6
90°-180°	6335.0	74.5
0°-180°	8505.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	12	64	122	153	165	11
95°	100	73	122	155	164	119
105°	452	479	385	156	152	478
115°	840	859	899	931	944	829
125°	1180	1193	1220	1239	1248	1054
135°	1468	1477	1491	1508	1508	1130
145°	1693	1702	1706	1715	1718	1059
155°	1864	1862	1863	1869	1861	859
165°	1966	1962	1960	1971	1961	555
175°	2012	2005	2006	2016	2005	191
180°	2012	2012	2012	2012	2012	



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.7	29.8	39.0	48.1	57.2	66.6	76.1	85.7	95.2	104.8	110.8
90°	11.5	23.1	34.8	46.4	58.1	70.4	83.4	96.4	109.4	122.4	129.6
92.5°	37.2	43.7	50.3	56.9	63.5	72.7	84.5	96.3	108.1	119.9	127.7
95°	99.6	92.6	85.7	78.7	71.7	74.2	86.2	98.2	110.2	122.2	129.8
97.5°	190.8	190.7	190.6	190.4	190.3	182.3	166.3	150.4	134.4	118.5	126.2
100°	259.5	271.6	283.7	295.8	307.9	292.0	248.0	204.0	160.0	116.0	123.6
102.5°	337.9	347.6	357.2	366.9	376.6	357.0	308.1	259.2	210.3	161.3	157.9
105°	451.6	459.4	467.1	474.9	482.6	475.2	452.6	430.0	407.4	384.9	330.8
107.5°	570.9	577.3	583.7	590.1	596.5	605.5	617.2	628.9	640.5	652.2	613.6
110°	650.4	656.2	661.9	667.6	673.3	681.4	691.9	702.3	712.8	723.3	716.7



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	727.0	731.9	736.8	741.7	746.6	754.2	764.4	774.6	784.7	794.9	799.4
115°	839.5	843.6	847.6	851.6	855.7	862.2	871.4	880.5	889.6	898.7	906.1
117.5°	949.1	952.8	956.5	960.3	964.0	969.5	976.8	984.0	991.3	998.6	1005.3
120°	1016.7	1020.5	1024.3	1028.2	1032.0	1037.3	1043.9	1050.5	1057.1	1063.7	1070.3
122.5°	1086.0	1088.9	1091.8	1094.7	1097.6	1102.4	1109.0	1115.6	1122.2	1128.8	1134.5
125°	1180.3	1183.0	1185.7	1188.3	1191.0	1195.4	1201.7	1208.0	1214.2	1220.5	1224.7
127.5°	1272.4	1274.9	1277.4	1279.9	1282.4	1286.5	1292.2	1297.8	1303.5	1309.2	1313.6
130°	1329.8	1332.3	1334.8	1337.3	1339.8	1343.4	1348.1	1352.9	1357.6	1362.3	1366.9
132.5°	1384.2	1386.9	1389.5	1392.1	1394.7	1397.9	1401.7	1405.5	1409.3	1413.1	1417.5
135°	1468.1	1469.9	1471.8	1473.6	1475.4	1477.9	1481.1	1484.3	1487.5	1490.7	1494.8
137.5°	1539.7	1542.1	1544.5	1546.9	1549.3	1551.4	1553.1	1554.9	1556.7	1558.5	1562.8
140°	1586.9	1588.9	1590.9	1592.9	1594.9	1596.7	1598.2	1599.7	1601.2	1602.7	1606.6
142.5°	1631.2	1633.1	1634.9	1636.8	1638.6	1640.1	1641.2	1642.3	1643.4	1644.5	1647.8
145°	1693.1	1695.2	1697.4	1699.6	1701.7	1703.1	1703.8	1704.4	1705.1	1705.8	1707.8
147.5°	1750.6	1752.2	1753.7	1755.2	1756.7	1757.8	1758.5	1759.2	1759.8	1760.5	1761.6
150°	1786.5	1787.5	1788.5	1789.5	1790.5	1791.3	1792.0	1792.7	1793.3	1794.0	1794.6
152.5°	1818.8	1819.3	1819.7	1820.2	1820.7	1821.1	1821.5	1821.9	1822.3	1822.7	1823.9
155°	1864.2	1863.6	1862.9	1862.3	1861.6	1861.4	1861.8	1862.1	1862.4	1862.7	1864.4
157.5°	1899.5	1899.5	1899.4	1899.3	1899.3	1899.1	1898.7	1898.4	1898.1	1897.7	1899.7
160°	1921.1	1920.7	1920.4	1920.1	1919.7	1919.4	1919.1	1918.7	1918.4	1918.1	1920.1
162.5°	1941.4	1940.5	1939.7	1938.8	1937.9	1937.3	1937.0	1936.7	1936.3	1936.0	1938.3
165°	1965.9	1964.9	1963.9	1962.9	1961.9	1961.3	1960.9	1960.6	1960.3	1959.9	1962.6
167.5°	1985.0	1983.7	1982.4	1981.1	1979.7	1979.1	1979.1	1979.1	1979.1	1979.1	1981.7
170°	1995.8	1994.5	1993.1	1991.8	1990.5	1989.8	1989.8	1989.8	1989.8	1989.8	1992.5
172.5°	2003.0	2001.4	1999.8	1998.2	1996.6	1995.9	1996.2	1996.5	1996.7	1997.0	1999.7
175°	2012.2	2010.6	2008.9	2007.3	2005.6	2004.9	2005.3	2005.6	2005.9	2006.3	2008.6
177.5°	2014.6	2013.3	2012.0	2010.7	2009.3	2008.8	2009.1	2009.3	2009.6	2009.9	2012.0
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	116.9	122.9	129.0	132.9	134.8	136.6	138.4	140.3
90°	136.7	143.8	150.9	155.6	158.0	160.4	162.7	165.1
92.5°	135.5	143.3	151.0	155.9	157.9	159.8	161.8	163.8
95°	137.4	145.0	152.6	157.2	158.9	160.6	162.4	164.1
97.5°	133.9	141.7	149.4	154.3	156.3	158.3	160.4	162.4
100°	131.2	138.8	146.4	151.2	153.2	155.2	157.3	159.3
102.5°	154.5	151.0	147.6	147.0	149.3	151.6	153.9	156.2
105°	276.8	222.7	168.7	142.8	145.0	147.2	149.4	151.6
107.5°	575.1	536.5	497.9	457.2	414.4	371.6	328.8	286.0
110°	710.2	703.7	697.1	670.8	624.6	578.5	532.3	486.2



TEST NUMBER: P332146

CATALOG NUMBER: S123DIW-S560D1535U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	803.9	808.4	812.9	810.9	802.3	793.8	785.3	776.7
115°	913.5	920.9	928.4	933.4	936.1	938.8	941.5	944.2
117.5°	1012.0	1018.7	1025.4	1029.6	1031.2	1032.8	1034.4	1036.0
120°	1076.9	1083.4	1090.0	1093.9	1095.1	1096.3	1097.5	1098.7
122.5°	1140.1	1145.7	1151.4	1154.9	1156.4	1157.8	1159.3	1160.8
125°	1229.0	1233.2	1237.5	1240.5	1242.4	1244.2	1246.1	1247.9
127.5°	1318.1	1322.5	1326.9	1329.4	1329.9	1330.4	1330.9	1331.4
130°	1371.5	1376.0	1380.6	1383.1	1383.4	1383.8	1384.1	1384.5
132.5°	1421.9	1426.4	1430.8	1433.1	1433.4	1433.6	1433.8	1434.0
135°	1498.8	1502.9	1507.0	1508.9	1508.8	1508.6	1508.5	1508.3
137.5°	1567.1	1571.4	1575.6	1577.9	1578.1	1578.3	1578.4	1578.6
140°	1610.5	1614.3	1618.2	1620.3	1620.4	1620.6	1620.8	1621.0
142.5°	1651.2	1654.5	1657.9	1659.5	1659.4	1659.3	1659.3	1659.2
145°	1709.8	1711.9	1713.9	1715.2	1715.9	1716.6	1717.3	1718.0
147.5°	1762.6	1763.7	1764.8	1764.9	1763.9	1763.0	1762.1	1761.2
150°	1795.3	1796.0	1796.6	1796.6	1796.0	1795.3	1794.7	1794.0
152.5°	1825.1	1826.3	1827.5	1827.3	1825.9	1824.4	1823.0	1821.5
155°	1866.1	1867.7	1869.4	1869.2	1867.2	1865.2	1863.2	1861.3
157.5°	1901.7	1903.7	1905.7	1905.4	1902.8	1900.2	1897.6	1895.0
160°	1922.1	1924.0	1926.0	1925.9	1923.5	1921.2	1918.9	1916.6
162.5°	1940.5	1942.8	1945.0	1945.1	1943.1	1941.0	1939.0	1936.9
165°	1965.2	1967.9	1970.6	1970.7	1968.4	1966.1	1963.7	1961.4
167.5°	1984.4	1987.0	1989.7	1989.7	1987.0	1984.4	1981.7	1979.1
170°	1995.1	1997.8	2000.5	2000.5	1997.8	1995.1	1992.5	1989.8
172.5°	2002.3	2005.0	2007.6	2007.5	2004.6	2001.7	1998.7	1995.8
175°	2010.9	2013.2	2015.6	2015.4	2012.7	2010.1	2007.4	2004.8
177.5°	2014.1	2016.2	2018.4	2018.1	2015.4	2012.8	2010.1	2007.5
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2

(END OF REPORT)