

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: P332773

Luminaire Tested: **S124DIW-S575D1560U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332773
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-S575D1560U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8734.8 lumens
Efficiency: N/A
Efficacy: 144.1 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

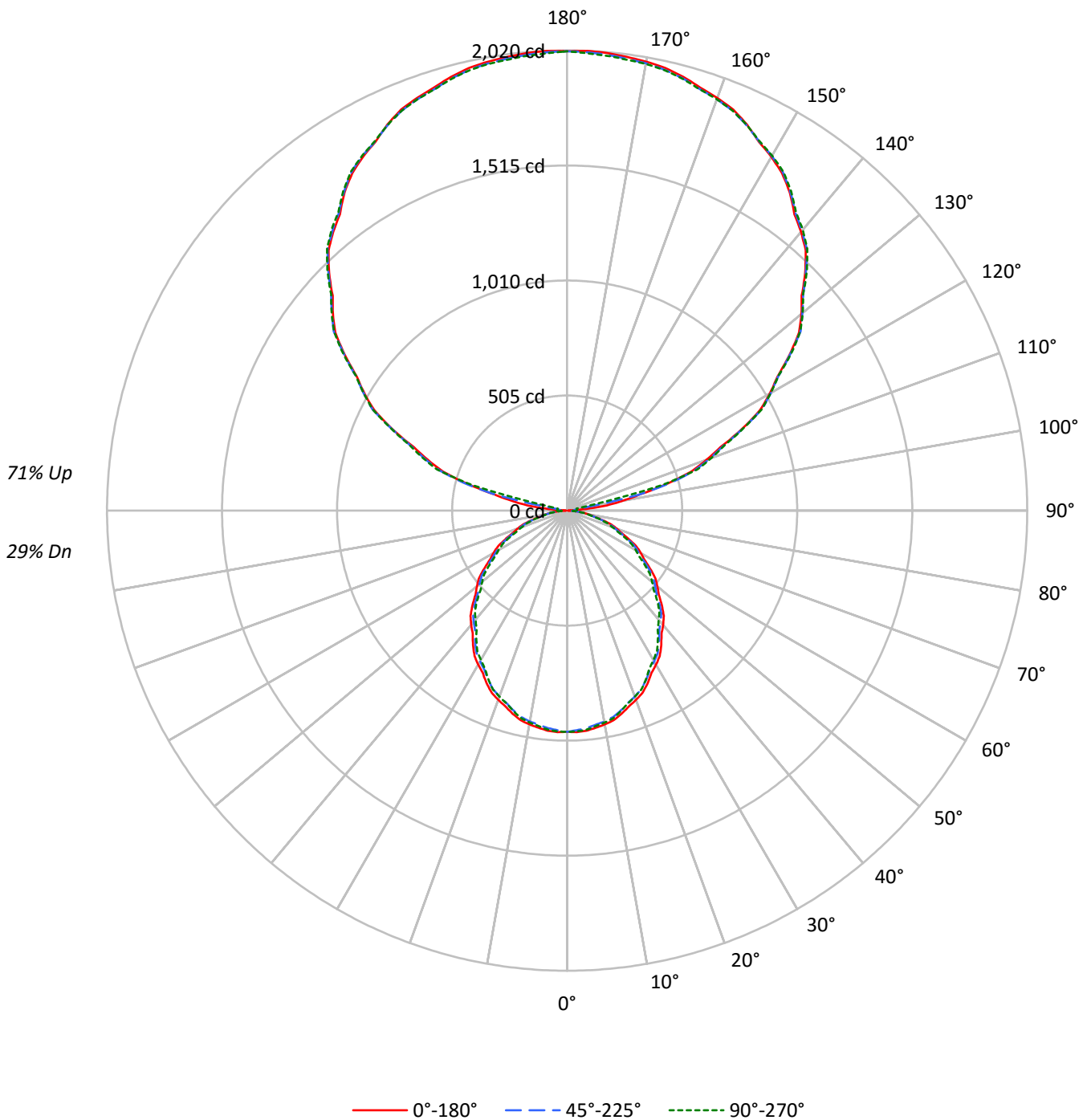
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	71	71	71	53	53	53	36	36	36	29
1	93	89	85	82	83	80	76	74	62	60	58	47	45	44	32	31	31	24
2	85	77	72	67	75	70	65	60	55	51	48	41	39	37	28	27	26	20
3	77	68	61	55	69	61	55	50	48	44	40	36	33	31	25	23	22	17
4	70	60	52	47	63	54	48	43	43	38	34	32	29	27	22	20	19	15
5	65	53	46	40	58	48	41	36	38	33	30	29	25	23	20	18	16	13
6	59	48	40	34	53	43	36	31	34	29	26	26	23	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	24	20	18	17	14	13	10
8	51	39	31	26	45	35	29	24	28	23	20	21	18	16	15	13	11	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7840	7840	7840
5°	7864	7769	7826
10°	7814	7706	7744
15°	7720	7596	7616
20°	7594	7460	7467
25°	7451	7306	7285
30°	7276	7124	7058
35°	7094	6933	6841
40°	6905	6716	6593
45°	6707	6503	6379
50°	6489	6314	6118
55°	6253	6068	5871
60°	6018	5792	5616
65°	5752	5530	5307
70°	5455	5179	4978
75°	5000	4757	4635
80°	4449	4268	4161
85°	3890	3751	3677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.5	1.0
10°-20°	257.7	3.0
20°-30°	379.3	4.3
30°-40°	440.9	5.0
40°-50°	440.9	5.0
50°-60°	385.7	4.4
60°-70°	286.4	3.3
70°-80°	162.7	1.9
80°-90°	52.8	0.6
90°-100°	69.0	0.8
100°-110°	439.7	5.0
110°-120°	841.1	9.6
120°-130°	1067.8	12.2
130°-140°	1142.4	13.1
140°-150°	1068.3	12.2
150°-160°	861.5	9.9
160°-170°	555.6	6.4
170°-180°	191.5	2.2
0°-30°	728.4	8.3
0°-40°	1169.3	13.4
0°-60°	1996.0	22.9
0°-90°	2497.9	28.6
90°-120°	1349.8	15.5
90°-150°	4628.2	53.0
90°-180°	6237.0	71.4
0°-180°	8734.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	970	967	959	967	966	92
15°	924	920	909	913	911	260
25°	836	831	820	821	818	385
35°	720	714	704	698	694	450
45°	588	582	570	561	559	453
55°	444	442	431	422	417	398
65°	301	297	290	282	278	298
75°	160	156	152	150	149	170
85°	42	42	40	40	40	46
90°	4	21	33	42	45	6
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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1
2.5°	973.6	973.2	972.8	972.4	972.0	971.0	969.5	968.0	966.4	964.9	966.3
5°	970.4	969.7	969.0	968.3	967.6	966.3	964.4	962.5	960.6	958.7	960.6
7.5°	961.3	960.6	960.0	959.3	958.6	957.2	955.1	953.0	950.8	948.7	950.3
10°	953.2	952.6	951.9	951.2	950.5	949.0	946.8	944.5	942.3	940.0	941.4
12.5°	942.7	942.0	941.3	940.6	939.9	938.4	936.0	933.6	931.2	928.8	930.3
15°	923.7	923.0	922.3	921.6	920.9	919.3	916.7	914.1	911.5	908.9	909.9
17.5°	900.8	899.9	899.1	898.2	897.3	895.7	893.2	890.8	888.3	885.9	886.5
20°	884.0	883.1	882.3	881.4	880.5	878.8	876.2	873.6	871.0	868.4	868.9
22.5°	865.9	864.8	863.7	862.5	861.4	859.5	856.9	854.3	851.7	849.1	850.1
25°	836.5	835.3	834.1	832.9	831.7	829.9	827.4	825.0	822.6	820.2	820.4
27.5°	802.9	801.7	800.4	799.2	797.9	796.2	793.9	791.7	789.4	787.2	786.8
30°	780.5	779.1	777.7	776.3	775.0	773.1	770.9	768.6	766.4	764.2	763.5
32.5°	756.8	755.6	754.3	753.1	751.9	750.0	747.7	745.3	742.9	740.5	739.7
35°	719.8	718.6	717.4	716.2	715.0	713.1	710.7	708.3	705.9	703.5	702.2
37.5°	680.7	679.6	678.5	677.4	676.3	674.5	671.9	669.3	666.7	664.1	662.8
40°	655.2	653.8	652.4	651.1	649.7	647.7	645.1	642.5	639.9	637.3	635.6
42.5°	627.8	627.0	626.2	625.3	624.5	622.6	619.8	616.9	614.0	611.2	609.2
45°	587.5	586.3	585.1	583.9	582.7	580.7	577.9	575.1	572.4	569.6	567.7
47.5°	545.3	544.5	543.7	542.8	542.0	540.3	537.8	535.2	532.6	530.1	527.9
50°	516.7	516.0	515.3	514.6	513.9	512.4	510.0	507.5	505.1	502.7	500.3
52.5°	488.7	487.9	487.0	486.2	485.4	483.7	481.1	478.6	476.0	473.4	471.3
55°	444.3	443.8	443.3	442.8	442.3	440.8	438.4	435.9	433.5	431.1	429.0
57.5°	402.0	401.4	400.8	400.2	399.6	398.2	395.8	393.4	391.0	388.6	386.6
60°	372.7	371.9	371.0	370.1	369.3	367.7	365.5	363.2	361.0	358.7	357.2
62.5°	344.1	343.4	342.6	341.9	341.2	339.6	337.3	334.9	332.5	330.1	328.7
65°	301.1	300.3	299.4	298.6	297.7	296.4	294.7	292.9	291.2	289.5	287.7
67.5°	257.9	257.1	256.3	255.5	254.7	253.5	251.8	250.2	248.5	246.8	245.2
70°	231.1	229.9	228.7	227.5	226.3	225.0	223.6	222.2	220.8	219.4	218.1
72.5°	202.5	201.3	200.1	198.8	197.6	196.5	195.4	194.3	193.2	192.0	190.9
75°	160.3	159.4	158.6	157.7	156.8	156.0	155.1	154.2	153.4	152.5	151.8
77.5°	120.0	119.6	119.2	118.9	118.5	117.9	117.1	116.4	115.6	114.9	114.6
80°	95.7	95.2	94.7	94.2	93.6	93.2	92.9	92.5	92.2	91.8	91.5
82.5°	72.1	71.8	71.6	71.3	71.1	70.9	70.9	70.8	70.7	70.7	70.4
85°	42.0	42.0	42.0	42.0	42.0	41.8	41.5	41.2	40.8	40.5	40.5
87.5°	17.1	17.7	18.3	18.9	19.5	20.0	20.4	20.8	21.2	21.6	22.0
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



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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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	971.1	971.1	971.1	971.1	971.1	971.1	971.1	971.1
2.5°	967.7	969.1	970.5	971.1	970.9	970.8	970.7	970.5
5°	962.5	964.4	966.3	967.1	966.7	966.4	966.0	965.7
7.5°	951.8	953.3	954.8	955.5	955.3	955.1	954.9	954.6
10°	942.8	944.2	945.6	946.1	945.7	945.4	945.0	944.7
12.5°	931.9	933.4	934.9	935.4	934.9	934.4	934.0	933.5
15°	911.0	912.0	913.0	913.3	912.8	912.3	911.7	911.2
17.5°	887.2	887.8	888.5	888.6	888.3	887.9	887.6	887.3
20°	869.5	870.0	870.5	870.6	870.2	869.9	869.6	869.2
22.5°	851.0	851.9	852.9	853.0	852.4	851.8	851.2	850.5
25°	820.5	820.7	820.9	820.6	819.9	819.2	818.5	817.8
27.5°	786.4	785.9	785.5	784.9	784.0	783.2	782.3	781.4
30°	762.8	762.1	761.4	760.6	759.7	758.9	758.0	757.1
32.5°	738.8	738.0	737.2	736.3	735.5	734.6	733.7	732.9
35°	701.0	699.8	698.6	697.6	696.7	695.8	695.0	694.1
37.5°	661.5	660.1	658.8	657.6	656.5	655.3	654.2	653.0
40°	633.9	632.1	630.4	629.1	628.2	627.4	626.5	625.6
42.5°	607.2	605.1	603.1	601.8	601.3	600.7	600.1	599.5
45°	565.8	563.9	562.0	560.8	560.3	559.8	559.2	558.7
47.5°	525.8	523.6	521.5	519.8	518.5	517.1	515.8	514.5
50°	497.8	495.4	493.0	491.3	490.2	489.2	488.2	487.1
52.5°	469.1	467.0	464.9	463.1	461.8	460.5	459.2	457.9
55°	427.0	424.9	422.8	421.2	420.2	419.2	418.1	417.1
57.5°	384.7	382.7	380.7	379.2	378.2	377.2	376.2	375.2
60°	355.6	354.1	352.5	351.3	350.4	349.6	348.7	347.8
62.5°	327.3	325.8	324.4	323.3	322.4	321.6	320.7	319.8
65°	286.0	284.3	282.6	281.3	280.4	279.5	278.7	277.8
67.5°	243.5	241.9	240.2	239.2	239.0	238.8	238.5	238.3
70°	216.7	215.3	213.9	213.0	212.4	211.9	211.4	210.9
72.5°	189.8	188.7	187.6	186.8	186.3	185.8	185.3	184.7
75°	151.1	150.4	149.8	149.3	149.1	149.0	148.8	148.6
77.5°	114.4	114.2	114.0	113.7	113.2	112.8	112.3	111.9
80°	91.1	90.8	90.4	90.2	90.0	89.8	89.7	89.5
82.5°	70.2	70.0	69.8	69.6	69.5	69.3	69.1	68.9
85°	40.5	40.5	40.5	40.4	40.2	40.0	39.9	39.7
87.5°	22.4	22.8	23.2	23.5	23.6	23.7	23.9	24.0
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: P332773

CATALOG NUMBER: S124DIW-S575D1560U835-4F0-1E-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)