

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: P332773-830

Luminaire Tested: **S124DIW-S575D1560U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332773-830
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-S575D1560U830-4F0-1E-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: 8232.9 lumens
Efficiency: N/A
Efficacy: 135.9 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

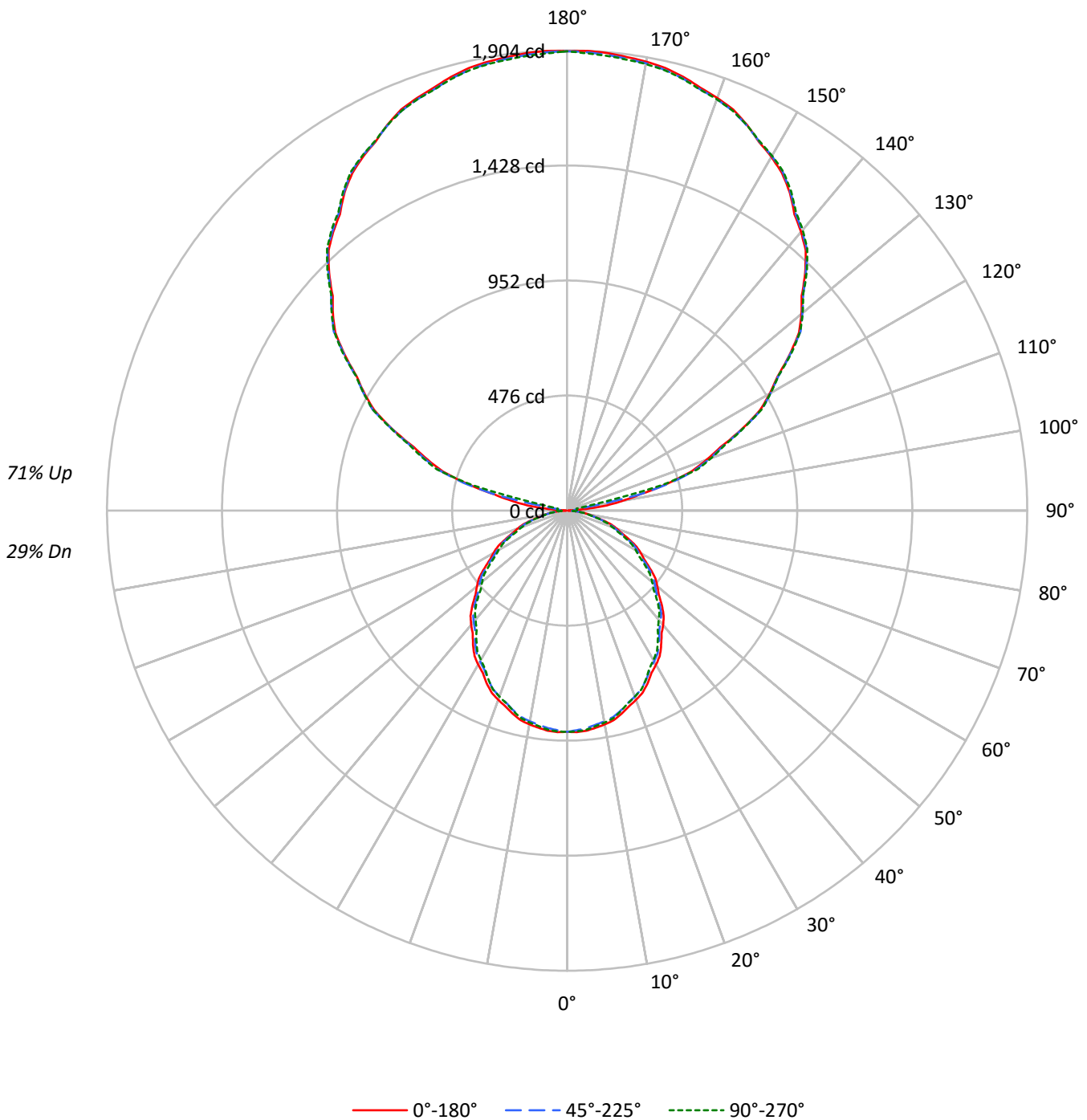
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7389	7389	7389
5°	7412	7323	7376
10°	7365	7263	7299
15°	7276	7160	7178
20°	7158	7032	7039
25°	7023	6886	6866
30°	6858	6715	6652
35°	6686	6535	6447
40°	6509	6330	6215
45°	6322	6130	6012
50°	6116	5951	5766
55°	5895	5719	5533
60°	5672	5459	5293
65°	5421	5213	5001
70°	5141	4881	4692
75°	4713	4482	4370
80°	4193	4021	3924
85°	3668	3538	3464



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.2	1.0
10°-20°	242.9	3.0
20°-30°	357.5	4.3
30°-40°	415.6	5.0
40°-50°	415.6	5.0
50°-60°	363.5	4.4
60°-70°	270.0	3.3
70°-80°	153.4	1.9
80°-90°	49.8	0.6
90°-100°	65.0	0.8
100°-110°	414.4	5.0
110°-120°	792.8	9.6
120°-130°	1006.4	12.2
130°-140°	1076.8	13.1
140°-150°	1006.9	12.2
150°-160°	812.0	9.9
160°-170°	523.7	6.4
170°-180°	180.5	2.2
0°-30°	686.6	8.3
0°-40°	1102.1	13.4
0°-60°	1881.3	22.9
0°-90°	2354.4	28.6
90°-120°	1272.2	15.5
90°-150°	4362.3	53.0
90°-180°	5879.0	71.4
0°-180°	8232.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	915	915	915	915	915	
5°	915	911	904	911	910	87
15°	871	867	857	861	859	245
25°	788	783	773	774	771	363
35°	678	673	663	658	654	424
45°	554	548	537	529	527	427
55°	419	416	406	398	393	375
65°	284	280	273	266	262	281
75°	151	147	144	141	140	161
85°	40	40	38	38	37	44
90°	4	20	31	40	43	6
95°	78	33	31	39	41	100
105°	428	436	444	453	405	448
115°	799	803	802	804	805	786
125°	1123	1128	1126	1130	1131	1002
135°	1393	1392	1397	1400	1403	1073
145°	1606	1610	1610	1612	1615	1003
155°	1761	1762	1758	1763	1760	812
165°	1858	1851	1851	1861	1849	525
175°	1900	1892	1893	1904	1889	181
180°	1900	1900	1900	1900	1900	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3
2.5°	917.7	917.3	916.9	916.5	916.2	915.2	913.8	912.4	910.9	909.5	910.8
5°	914.6	914.0	913.3	912.7	912.0	910.8	909.0	907.2	905.4	903.6	905.4
7.5°	906.1	905.4	904.8	904.2	903.5	902.2	900.2	898.2	896.2	894.2	895.7
10°	898.4	897.9	897.2	896.5	895.9	894.5	892.4	890.2	888.2	886.0	887.3
12.5°	888.5	887.9	887.2	886.6	885.9	884.5	882.2	880.0	877.7	875.4	876.8
15°	870.6	870.0	869.3	868.6	868.0	866.5	864.0	861.6	859.1	856.7	857.6
17.5°	849.0	848.2	847.4	846.6	845.7	844.2	841.9	839.6	837.3	835.0	835.6
20°	833.2	832.4	831.6	830.8	829.9	828.3	825.9	823.4	821.0	818.5	819.0
22.5°	816.1	815.1	814.1	812.9	811.9	810.1	807.7	805.2	802.8	800.3	801.3
25°	788.4	787.3	786.2	785.0	783.9	782.2	779.9	777.6	775.3	773.1	773.3
27.5°	756.8	755.6	754.4	753.3	752.1	750.5	748.3	746.2	744.0	742.0	741.6
30°	735.7	734.3	733.0	731.7	730.5	728.7	726.6	724.4	722.4	720.3	719.6
32.5°	713.3	712.2	711.0	709.8	708.7	706.9	704.7	702.5	700.2	698.0	697.2
35°	678.4	677.3	676.2	675.0	673.9	672.1	669.9	667.6	665.3	663.1	661.9
37.5°	641.6	640.6	639.5	638.5	637.4	635.7	633.3	630.8	628.4	625.9	624.7
40°	617.6	616.2	614.9	613.7	612.4	610.5	608.0	605.6	603.1	600.7	599.1
42.5°	591.7	591.0	590.2	589.4	588.6	586.8	584.2	581.5	578.7	576.1	574.2
45°	553.7	552.6	551.5	550.4	549.2	547.3	544.7	542.1	539.5	536.9	535.1
47.5°	514.0	513.2	512.5	511.6	510.9	509.3	506.9	504.4	502.0	499.6	497.6
50°	487.0	486.4	485.7	485.0	484.4	483.0	480.7	478.3	476.1	473.8	471.6
52.5°	460.6	459.9	459.0	458.3	457.5	455.9	453.5	451.1	448.7	446.2	444.2
55°	418.8	418.3	417.8	417.4	416.9	415.5	413.2	410.9	408.6	406.3	404.4
57.5°	378.9	378.3	377.8	377.2	376.6	375.3	373.1	370.8	368.5	366.3	364.4
60°	351.3	350.5	349.7	348.8	348.1	346.6	344.5	342.3	340.3	338.1	336.7
62.5°	324.3	323.7	322.9	322.3	321.6	320.1	317.9	315.7	313.4	311.1	309.8
65°	283.8	283.0	282.2	281.4	280.6	279.4	277.8	276.1	274.5	272.9	271.2
67.5°	243.1	242.3	241.6	240.8	240.1	238.9	237.3	235.8	234.2	232.6	231.1
70°	217.8	216.7	215.6	214.4	213.3	212.1	210.8	209.4	208.1	206.8	205.6
72.5°	190.9	189.7	188.6	187.4	186.2	185.2	184.2	183.1	182.1	181.0	179.9
75°	151.1	150.2	149.5	148.6	147.8	147.0	146.2	145.3	144.6	143.7	143.1
77.5°	113.1	112.7	112.4	112.1	111.7	111.1	110.4	109.7	109.0	108.3	108.0
80°	90.2	89.7	89.3	88.8	88.2	87.8	87.6	87.2	86.9	86.5	86.2
82.5°	68.0	67.7	67.5	67.2	67.0	66.8	66.8	66.7	66.6	66.6	66.4
85°	39.6	39.6	39.6	39.6	39.6	39.4	39.1	38.8	38.5	38.2	38.2
87.5°	16.1	16.7	17.2	17.8	18.4	18.9	19.2	19.6	20.0	20.4	20.7
90°	4.2	7.7	11.2	14.7	18.2	21.2	23.7	26.2	28.7	31.3	33.2
92.5°	17.9	18.1	18.3	18.5	18.7	20.0	22.5	25.1	27.6	30.2	32.0
95°	78.1	67.4	56.7	46.0	35.3	30.0	30.3	30.6	30.9	31.3	33.2
97.5°	166.0	172.7	179.4	186.2	192.8	178.5	143.3	108.0	72.8	37.5	37.7
100°	233.1	238.8	244.5	250.2	255.8	236.9	193.3	149.7	106.1	62.6	57.2
102.5°	308.1	312.4	316.5	320.7	324.8	324.0	318.4	312.7	307.0	301.3	243.4
105°	427.8	429.7	431.6	433.6	435.5	437.2	438.8	440.4	441.9	443.5	446.3
107.5°	538.9	540.0	540.9	541.9	542.8	544.3	546.5	548.7	550.7	552.9	554.3
110°	614.1	615.0	616.0	616.9	617.8	619.3	621.1	623.0	624.9	626.8	627.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	686.8	688.5	690.2	691.9	693.6	694.9	695.8	696.7	697.6	698.5	698.3
115°	798.8	799.7	800.7	801.6	802.6	803.0	802.6	802.3	802.0	801.6	802.3
117.5°	899.8	901.0	902.3	903.5	904.8	905.8	906.4	907.2	907.9	908.5	908.4
120°	968.0	969.2	970.5	971.8	973.0	973.5	973.2	972.9	972.5	972.2	972.9
122.5°	1031.6	1032.4	1033.1	1033.9	1034.7	1035.3	1035.8	1036.1	1036.6	1037.1	1037.5
125°	1122.9	1124.2	1125.4	1126.7	1127.9	1128.2	1127.7	1127.0	1126.3	1125.8	1126.7
127.5°	1209.3	1209.7	1209.9	1210.2	1210.6	1211.4	1213.0	1214.4	1215.8	1217.3	1217.1
130°	1265.1	1265.4	1265.6	1266.0	1266.3	1267.0	1267.9	1268.9	1269.8	1270.7	1271.0
132.5°	1316.2	1316.7	1317.4	1318.0	1318.5	1319.4	1320.6	1321.7	1323.0	1324.2	1324.5
135°	1393.0	1392.6	1392.3	1392.0	1391.7	1392.1	1393.5	1394.7	1396.0	1397.2	1397.9
137.5°	1460.9	1461.0	1461.1	1461.3	1461.4	1462.2	1463.6	1465.0	1466.3	1467.7	1468.4
140°	1505.2	1505.9	1506.6	1507.1	1507.8	1508.4	1509.0	1509.7	1510.3	1510.9	1511.9
142.5°	1545.0	1546.1	1547.4	1548.5	1549.6	1550.4	1550.8	1551.1	1551.5	1551.9	1552.6
145°	1606.2	1607.1	1608.1	1609.0	1610.0	1610.4	1610.4	1610.4	1610.4	1610.4	1610.7
147.5°	1654.8	1656.5	1658.3	1660.1	1661.9	1662.6	1662.3	1662.0	1661.6	1661.3	1661.6
150°	1690.1	1691.3	1692.5	1693.8	1695.1	1695.5	1695.3	1695.0	1694.6	1694.3	1694.3
152.5°	1719.6	1720.6	1721.6	1722.6	1723.6	1723.9	1723.3	1722.7	1722.1	1721.6	1722.1
155°	1761.1	1761.4	1761.7	1762.1	1762.4	1762.1	1761.1	1760.2	1759.3	1758.2	1759.5
157.5°	1796.1	1795.9	1795.7	1795.5	1795.4	1794.7	1793.6	1792.5	1791.5	1790.4	1792.1
160°	1816.6	1815.6	1814.7	1813.7	1812.8	1812.1	1811.8	1811.5	1811.2	1810.8	1812.8
162.5°	1834.8	1833.5	1832.3	1831.2	1829.9	1829.2	1828.8	1828.5	1828.2	1827.9	1829.8
165°	1857.8	1856.1	1854.6	1853.0	1851.4	1850.7	1850.7	1850.7	1850.7	1850.7	1853.1
167.5°	1875.9	1874.3	1872.6	1871.0	1869.3	1868.5	1868.3	1868.1	1867.9	1867.7	1870.5
170°	1886.2	1884.3	1882.4	1880.5	1878.6	1877.8	1878.1	1878.5	1878.8	1879.1	1881.6
172.5°	1893.0	1891.1	1889.2	1887.3	1885.5	1884.6	1885.0	1885.3	1885.6	1885.9	1888.4
175°	1900.4	1898.5	1896.6	1894.7	1892.8	1892.1	1892.3	1892.6	1893.0	1893.3	1896.1
177.5°	1903.8	1902.1	1900.3	1898.5	1896.8	1896.1	1896.6	1897.1	1897.6	1898.1	1900.2
180°	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.3	915.3	915.3	915.3	915.3	915.3	915.3	915.3
2.5°	912.1	913.4	914.7	915.3	915.1	915.0	914.9	914.7
5°	907.2	909.0	910.8	911.5	911.2	910.9	910.5	910.2
7.5°	897.1	898.5	899.9	900.6	900.4	900.2	900.0	899.8
10°	888.6	889.9	891.3	891.7	891.4	891.1	890.7	890.4
12.5°	878.4	879.8	881.2	881.7	881.2	880.7	880.3	879.9
15°	858.7	859.6	860.5	860.8	860.4	859.9	859.3	858.8
17.5°	836.2	836.8	837.4	837.5	837.3	836.9	836.6	836.3
20°	819.5	820.0	820.5	820.6	820.2	819.9	819.6	819.3
22.5°	802.1	803.0	803.9	804.0	803.4	802.9	802.3	801.6
25°	773.4	773.5	773.7	773.5	772.8	772.1	771.5	770.8
27.5°	741.2	740.7	740.4	739.8	739.0	738.2	737.4	736.5
30°	719.0	718.3	717.7	716.9	716.0	715.3	714.4	713.6
32.5°	696.4	695.6	694.8	694.0	693.2	692.4	691.5	690.8
35°	660.7	659.6	658.5	657.5	656.7	655.8	655.1	654.2
37.5°	623.5	622.2	620.9	619.8	618.8	617.6	616.6	615.5
40°	597.5	595.8	594.2	593.0	592.1	591.4	590.5	589.7
42.5°	572.3	570.3	568.4	567.2	566.8	566.2	565.6	565.1
45°	533.3	531.5	529.7	528.6	528.1	527.6	527.1	526.6
47.5°	495.6	493.5	491.5	489.9	488.7	487.4	486.2	484.9
50°	469.2	466.9	464.7	463.1	462.0	461.1	460.1	459.1
52.5°	442.1	440.2	438.2	436.5	435.3	434.0	432.8	431.6
55°	402.5	400.5	398.5	397.0	396.1	395.1	394.1	393.1
57.5°	362.6	360.7	358.8	357.4	356.5	355.5	354.6	353.6
60°	335.2	333.8	332.2	331.1	330.3	329.5	328.7	327.8
62.5°	308.5	307.1	305.8	304.7	303.9	303.1	302.3	301.4
65°	269.6	268.0	266.4	265.1	264.3	263.4	262.7	261.8
67.5°	229.5	228.0	226.4	225.5	225.3	225.1	224.8	224.6
70°	204.2	202.9	201.6	200.8	200.2	199.7	199.3	198.8
72.5°	178.9	177.9	176.8	176.1	175.6	175.1	174.7	174.1
75°	142.4	141.8	141.2	140.7	140.5	140.4	140.3	140.1
77.5°	107.8	107.6	107.4	107.2	106.7	106.3	105.8	105.5
80°	85.9	85.6	85.2	85.0	84.8	84.6	84.5	84.4
82.5°	66.2	66.0	65.8	65.6	65.5	65.3	65.1	64.9
85°	38.2	38.2	38.2	38.1	37.9	37.7	37.6	37.4
87.5°	21.1	21.5	21.9	22.1	22.2	22.3	22.5	22.6
90°	35.1	36.9	38.8	40.2	40.7	41.4	42.0	42.6
92.5°	33.9	35.8	37.7	38.7	38.8	39.0	39.1	39.2
95°	35.1	36.9	38.8	40.0	40.2	40.6	40.9	41.2
97.5°	37.9	38.1	38.3	38.5	38.8	39.2	39.5	39.8
100°	51.8	46.5	41.1	38.5	38.8	39.2	39.5	39.8
102.5°	185.5	127.5	69.7	40.7	40.7	40.8	40.9	40.9
105°	449.1	452.0	454.9	450.5	439.2	427.8	416.5	405.1
107.5°	555.7	557.1	558.5	559.8	561.0	562.1	563.4	564.6
110°	628.1	628.8	629.3	630.2	631.1	632.1	633.0	634.0



TEST NUMBER: P332773-830

CATALOG NUMBER: S124DIW-S575D1560U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	698.2	698.0	698.0	698.5	699.7	700.9	702.1	703.3
115°	803.0	803.5	804.2	804.6	804.6	804.6	804.6	804.6
117.5°	908.3	908.1	908.0	908.0	907.8	907.7	907.6	907.4
120°	973.5	974.1	974.8	974.8	974.1	973.5	972.9	972.2
122.5°	1037.8	1038.2	1038.6	1038.4	1037.8	1037.2	1036.5	1035.9
125°	1127.7	1128.6	1129.5	1130.2	1130.5	1130.8	1131.1	1131.4
127.5°	1216.9	1216.7	1216.5	1216.3	1216.1	1215.8	1215.5	1215.3
130°	1271.4	1271.7	1272.0	1272.1	1272.1	1272.1	1272.1	1272.1
132.5°	1324.8	1325.1	1325.4	1325.5	1325.2	1324.9	1324.7	1324.5
135°	1398.5	1399.1	1399.8	1400.4	1401.0	1401.7	1402.3	1402.9
137.5°	1469.1	1469.8	1470.6	1470.7	1470.6	1470.4	1470.2	1470.0
140°	1512.9	1513.8	1514.8	1515.3	1515.7	1516.0	1516.3	1516.6
142.5°	1553.3	1554.0	1554.6	1555.0	1555.1	1555.2	1555.2	1555.3
145°	1611.1	1611.4	1611.7	1612.2	1612.8	1613.4	1614.1	1614.7
147.5°	1661.8	1662.1	1662.4	1662.6	1662.9	1663.2	1663.6	1663.9
150°	1694.3	1694.3	1694.3	1694.5	1694.8	1695.1	1695.4	1695.7
152.5°	1722.6	1723.1	1723.6	1723.7	1723.5	1723.3	1723.2	1723.0
155°	1760.8	1762.1	1763.3	1763.5	1762.6	1761.6	1760.7	1759.7
157.5°	1793.7	1795.4	1797.0	1797.0	1795.4	1793.7	1792.1	1790.4
160°	1814.7	1816.6	1818.4	1818.4	1816.6	1814.7	1812.8	1810.8
162.5°	1831.7	1833.6	1835.5	1835.3	1833.2	1831.1	1828.9	1826.7
165°	1855.7	1858.2	1860.8	1860.6	1857.8	1854.9	1852.1	1849.3
167.5°	1873.3	1876.0	1878.9	1878.7	1875.5	1872.4	1869.2	1866.0
170°	1884.1	1886.7	1889.2	1888.9	1885.7	1882.5	1879.4	1876.2
172.5°	1890.9	1893.5	1896.0	1895.5	1892.2	1888.8	1885.4	1881.9
175°	1898.9	1901.9	1904.7	1904.2	1900.4	1896.6	1892.8	1889.0
177.5°	1902.1	1904.2	1906.2	1905.7	1902.7	1899.6	1896.6	1893.6
180°	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4	1900.4

(END OF REPORT)