

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: P333053-830

Luminaire Tested: **S124RDIW-S575D1560U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333053-830
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: S124RDIW-S575D1560U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 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: 8097.1 lumens
Efficiency: N/A
Efficacy: 133.6 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

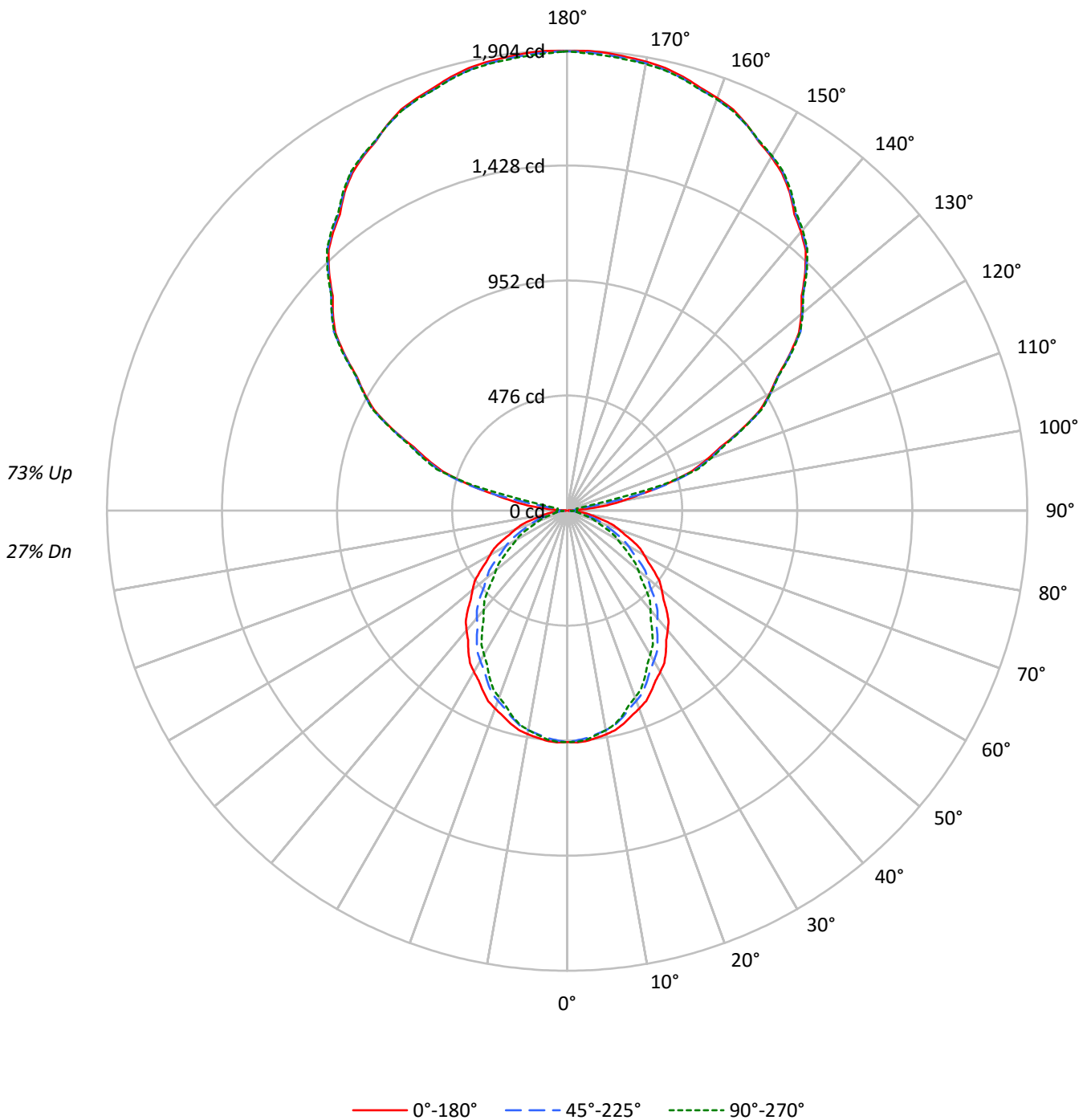
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	52	52	52	35	35	35	27
1	93	89	85	82	83	79	76	74	62	60	58	46	45	44	31	31	30	23
2	85	78	72	67	75	70	65	61	55	51	48	41	39	37	28	27	26	20
3	77	68	61	56	69	61	55	51	48	44	41	36	33	31	25	23	22	17
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19	15
5	65	54	46	40	58	48	42	37	38	33	30	29	26	23	20	18	17	13
6	60	48	40	35	53	43	37	32	34	30	26	26	23	20	18	16	15	11
7	55	43	36	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	27	45	35	29	24	28	24	20	22	18	16	15	13	12	9
9	47	36	28	24	42	32	26	22	26	21	18	20	17	14	14	12	10	8
10	44	33	26	21	39	30	23	19	24	19	16	18	15	13	13	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7733	7733	7733
5°	7750	7656	7703
10°	7702	7564	7564
15°	7614	7405	7350
20°	7491	7196	7064
25°	7337	6951	6774
30°	7185	6693	6413
35°	7019	6427	6050
40°	6817	6122	5658
45°	6632	5819	5259
50°	6420	5471	4835
55°	6194	5111	4376
60°	5945	4713	3907
65°	5717	4216	3446
70°	5384	3670	2924
75°	4966	3044	2380
80°	4328	2320	2180
85°	3668	2103	1973



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.0	1.1
10°-20°	250.9	3.1
20°-30°	362.3	4.5
30°-40°	410.7	5.1
40°-50°	396.6	4.9
50°-60°	329.8	4.1
60°-70°	227.7	2.8
70°-80°	115.4	1.4
80°-90°	35.1	0.4
90°-100°	65.0	0.8
100°-110°	414.4	5.1
110°-120°	792.8	9.8
120°-130°	1006.4	12.4
130°-140°	1076.8	13.3
140°-150°	1006.9	12.4
150°-160°	812.0	10.0
160°-170°	523.7	6.5
170°-180°	180.5	2.2
0°-30°	703.2	8.7
0°-40°	1113.9	13.8
0°-60°	1840.3	22.7
0°-90°	2218.6	27.4
90°-120°	1272.2	15.7
90°-150°	4362.3	53.9
90°-180°	5879.0	72.6
0°-180°	8097.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	958	958	958	958	958	
5°	956	953	945	952	951	91
15°	911	904	886	884	879	257
25°	824	810	780	768	760	379
35°	712	688	652	628	614	445
45°	581	553	510	475	461	448
55°	440	410	363	326	311	394
65°	299	267	221	190	180	295
75°	159	132	98	81	76	168
85°	40	26	23	21	21	45
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	



TEST NUMBER: P333053-830

CATALOG NUMBER: S124RDIW-S575D1560U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	960.3	959.7	959.2	958.7	958.2	957.2	955.7	954.3	952.8	951.4	952.8
5°	956.4	955.7	955.1	954.4	953.9	952.5	950.6	948.6	946.6	944.7	946.3
7.5°	947.7	947.1	946.4	945.7	945.0	943.4	940.8	938.3	935.8	933.2	934.2
10°	939.5	938.8	937.9	937.1	936.3	934.4	931.5	928.5	925.6	922.7	923.3
12.5°	929.0	928.0	927.1	926.1	925.2	923.0	919.5	916.1	912.7	909.2	909.6
15°	911.0	909.5	908.0	906.5	905.0	902.3	898.2	894.2	890.0	886.0	885.7
17.5°	889.1	886.9	884.9	882.7	880.6	877.1	872.2	867.3	862.4	857.5	856.7
20°	872.0	870.0	867.8	865.7	863.6	859.8	854.2	848.7	843.1	837.6	836.3
22.5°	853.3	850.9	848.6	846.1	843.8	839.6	833.7	827.7	821.8	815.9	813.9
25°	823.7	820.8	817.7	814.8	811.9	807.1	800.4	793.7	787.0	780.4	777.6
27.5°	792.6	788.9	785.2	781.6	777.8	772.4	765.3	758.2	751.0	743.9	740.5
30°	770.8	766.8	762.7	758.7	754.6	748.7	741.0	733.4	725.7	718.0	714.0
32.5°	748.0	743.4	738.8	734.1	729.6	723.3	715.4	707.5	699.6	691.6	686.9
35°	712.2	707.0	701.7	696.5	691.4	684.7	676.5	668.4	660.2	652.1	646.5
37.5°	673.9	668.5	663.2	657.8	652.3	645.2	636.1	627.1	618.1	609.1	602.9
40°	646.9	641.5	636.1	630.7	625.4	618.0	608.8	599.5	590.2	580.9	574.0
42.5°	621.0	615.5	609.8	604.2	598.5	590.9	581.2	571.5	561.8	552.1	545.2
45°	580.9	574.9	568.8	562.8	556.8	548.8	539.0	529.3	519.5	509.7	501.7
47.5°	539.4	533.2	526.9	520.7	514.4	506.2	496.1	486.0	475.8	465.6	457.3
50°	511.2	504.8	498.5	492.1	485.8	477.4	466.9	456.6	446.1	435.6	427.5
52.5°	482.5	476.3	470.0	463.8	457.5	449.1	438.4	427.7	417.0	406.3	398.0
55°	440.1	433.6	427.1	420.5	414.0	405.4	394.8	384.3	373.6	363.1	354.6
57.5°	398.1	391.3	384.6	377.8	371.0	362.4	351.9	341.5	331.1	320.7	312.1
60°	368.2	361.7	355.2	348.6	342.1	333.7	323.2	312.7	302.4	291.9	283.4
62.5°	341.2	334.4	327.6	320.8	314.1	305.4	294.6	284.0	273.2	262.6	254.8
65°	299.3	292.3	285.2	278.2	271.2	262.5	252.0	241.7	231.2	220.7	213.8
67.5°	255.7	248.9	242.2	235.5	228.8	220.6	210.9	201.2	191.6	181.9	175.9
70°	228.1	221.2	214.4	207.5	200.8	192.7	183.3	174.1	164.8	155.5	150.1
72.5°	198.8	192.6	186.3	180.2	174.0	166.5	157.8	149.0	140.2	131.4	126.9
75°	159.2	153.2	147.1	141.1	135.1	128.2	120.6	112.8	105.2	97.6	93.8
77.5°	118.9	113.9	108.8	103.6	98.5	92.8	86.6	80.5	74.3	68.1	65.9
80°	93.1	88.4	83.7	79.0	74.3	69.5	64.6	59.7	54.8	49.9	49.4
82.5°	70.9	66.5	62.2	57.9	53.5	50.0	47.1	44.3	41.6	38.7	38.4
85°	39.6	36.4	33.1	29.8	26.6	24.7	24.2	23.8	23.2	22.7	22.4
87.5°	14.3	14.0	13.7	13.3	12.9	13.0	13.4	13.8	14.1	14.5	14.7
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°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	954.3	955.7	957.2	957.8	957.7	957.5	957.4	957.3
5°	947.9	949.6	951.2	951.9	951.5	951.2	950.8	950.6
7.5°	935.3	936.3	937.5	937.6	937.2	936.6	936.1	935.6
10°	924.0	924.6	925.3	925.3	924.6	924.0	923.3	922.7
12.5°	909.9	910.3	910.8	910.5	909.6	908.7	907.8	906.8
15°	885.3	885.0	884.7	884.0	882.8	881.7	880.5	879.4
17.5°	855.7	854.8	853.8	852.5	850.8	849.1	847.3	845.6
20°	835.0	833.7	832.4	830.7	828.6	826.4	824.3	822.2
22.5°	812.0	810.0	808.0	806.3	804.5	802.8	801.1	799.3
25°	774.9	772.0	769.3	767.1	765.4	763.8	762.2	760.5
27.5°	737.0	733.6	730.2	727.3	724.9	722.6	720.3	717.9
30°	709.9	705.8	701.7	698.4	695.8	693.1	690.6	688.0
32.5°	682.2	677.5	672.7	669.1	666.7	664.2	661.7	659.2
35°	640.9	635.4	629.9	625.7	622.7	619.7	616.8	613.9
37.5°	596.6	590.5	584.3	579.8	576.7	573.8	570.9	568.0
40°	567.2	560.3	553.5	548.7	545.6	542.7	539.8	536.9
42.5°	538.2	531.2	524.2	519.2	516.1	513.1	510.0	507.0
45°	493.8	485.8	477.8	472.3	469.4	466.5	463.5	460.6
47.5°	449.0	440.7	432.4	426.7	423.5	420.3	417.1	413.8
50°	419.3	411.2	403.0	397.5	394.4	391.2	388.1	385.0
52.5°	389.7	381.4	373.2	367.5	364.2	361.0	357.8	354.6
55°	346.1	337.6	329.1	323.4	320.3	317.2	314.1	310.9
57.5°	303.4	294.8	286.3	280.8	278.4	276.1	273.7	271.4
60°	274.9	266.5	258.0	252.5	249.9	247.2	244.7	242.0
62.5°	246.9	239.1	231.3	226.3	224.2	222.2	220.1	218.0
65°	206.8	199.7	192.7	188.2	186.3	184.4	182.4	180.4
67.5°	169.8	163.8	157.8	153.7	151.6	149.4	147.2	145.1
70°	144.8	139.4	133.9	130.4	128.8	127.2	125.5	123.9
72.5°	122.2	117.6	113.0	110.0	108.5	107.0	105.5	104.0
75°	90.0	86.3	82.6	80.2	79.2	78.2	77.3	76.3
77.5°	63.7	61.5	59.3	58.1	57.8	57.5	57.2	56.9
80°	48.9	48.4	47.9	47.6	47.4	47.2	47.1	46.9
82.5°	38.0	37.6	37.3	37.0	36.9	36.7	36.6	36.4
85°	22.1	21.8	21.4	21.3	21.3	21.3	21.3	21.3
87.5°	15.0	15.2	15.5	15.7	15.9	16.2	16.5	16.8
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: P333053-830

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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)