

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: P333054

Luminaire Tested: **S124RDIW-S575D1560U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333054
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S575D1560U835-4F0-1E-UDD-F1
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, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7763.0 lumens
Efficiency: N/A
Efficacy: 128.1 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

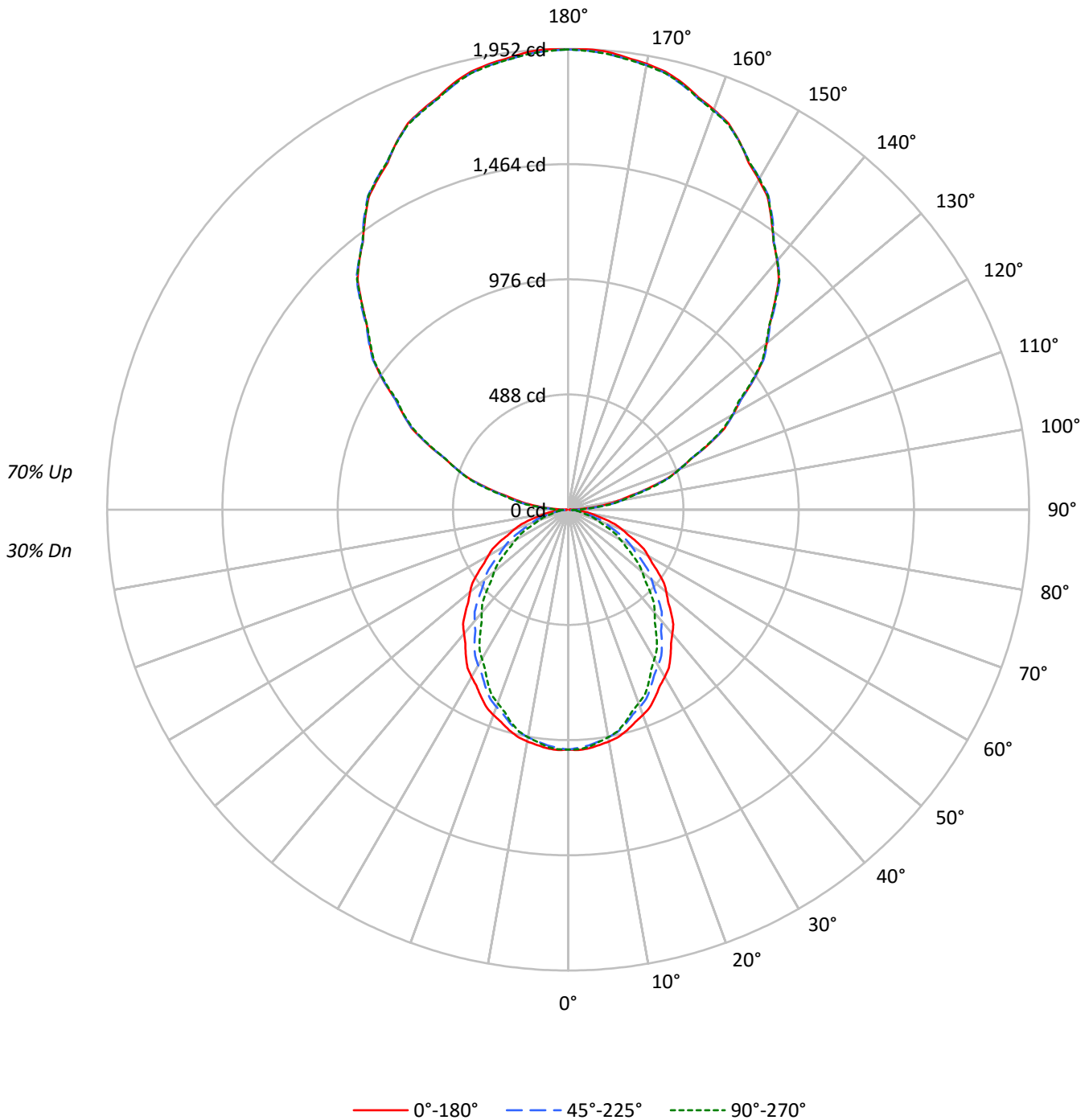
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30				
1	94	89	86	82	84	80	77	74	64	61	60	48	47	46	34	33	32	26				
2	85	78	72	67	76	70	65	61	56	52	50	42	40	38	30	29	27	22				
3	78	69	62	56	70	62	56	51	49	45	42	38	35	32	27	25	24	19				
4	71	61	53	48	64	55	49	44	44	39	36	34	30	28	24	22	20	16				
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	19	18	14				
6	60	48	41	35	54	44	37	32	35	30	27	27	24	21	20	17	16	12				
7	55	44	36	31	50	40	33	28	32	27	23	25	21	19	18	16	14	11				
8	51	40	32	27	46	36	29	25	29	24	21	23	19	17	16	14	13	10				
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11	9				
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8205	8205	8205
5°	8223	8122	8173
10°	8171	8025	8025
15°	8078	7856	7798
20°	7948	7635	7494
25°	7784	7375	7187
30°	7623	7101	6804
35°	7447	6818	6419
40°	7233	6495	6003
45°	7036	6174	5579
50°	6812	5805	5130
55°	6572	5422	4643
60°	6307	5000	4146
65°	6065	4474	3656
70°	5712	3895	3104
75°	5268	3228	2523
80°	4593	2459	2315
85°	3890	2232	2093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.5	1.2
10°-20°	266.2	3.4
20°-30°	384.4	5.0
30°-40°	435.7	5.6
40°-50°	420.8	5.4
50°-60°	349.9	4.5
60°-70°	241.6	3.1
70°-80°	122.5	1.6
80°-90°	37.2	0.5
90°-100°	128.6	1.7
100°-110°	380.9	4.9
110°-120°	646.6	8.3
120°-130°	852.5	11.0
130°-140°	957.5	12.3
140°-150°	940.9	12.1
150°-160°	791.3	10.2
160°-170°	526.5	6.8
170°-180°	184.4	2.4
0°-30°	746.1	9.6
0°-40°	1181.8	15.2
0°-60°	1952.5	25.2
0°-90°	2353.8	30.3
90°-120°	1156.1	14.9
90°-150°	3906.9	50.3
90°-180°	5409.0	69.7
0°-180°	7763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1016	1016	1016	1016	1016	
5°	1015	1011	1002	1010	1008	96
15°	966	959	940	938	933	272
25°	874	859	828	815	807	402
35°	756	730	692	666	651	472
45°	616	586	541	504	489	475
55°	467	435	385	346	330	418
65°	318	283	234	202	191	313
75°	169	140	104	86	81	178
85°	42	27	24	23	23	47
90°	4	21	33	42	45	8
95°	90	104	115	119	119	101
105°	351	353	359	363	368	373
115°	657	657	654	653	651	648
125°	958	957	956	953	950	853
135°	1235	1244	1244	1241	1236	955
145°	1500	1506	1508	1506	1502	939
155°	1719	1719	1717	1723	1717	791
165°	1871	1867	1864	1872	1867	527
175°	1947	1939	1938	1947	1938	185
180°	1950	1950	1950	1950	1950	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3
2.5°	1018.8	1018.2	1017.7	1017.1	1016.6	1015.5	1014.0	1012.5	1010.9	1009.4	1010.9
5°	1014.7	1014.0	1013.3	1012.6	1012.0	1010.6	1008.5	1006.4	1004.3	1002.3	1004.0
7.5°	1005.5	1004.8	1004.1	1003.4	1002.6	1000.9	998.2	995.5	992.8	990.1	991.2
10°	996.8	996.0	995.1	994.2	993.4	991.4	988.3	985.1	982.0	978.9	979.6
12.5°	985.6	984.6	983.6	982.6	981.6	979.3	975.6	971.9	968.3	964.6	965.0
15°	966.5	964.9	963.4	961.8	960.2	957.3	953.0	948.7	944.3	940.0	939.7
17.5°	943.3	941.0	938.8	936.5	934.3	930.6	925.4	920.2	915.0	909.8	908.9
20°	925.2	923.0	920.7	918.5	916.2	912.2	906.3	900.4	894.5	888.7	887.3
22.5°	905.3	902.8	900.3	897.7	895.2	890.8	884.5	878.2	871.9	865.6	863.5
25°	873.9	870.8	867.6	864.5	861.4	856.3	849.2	842.1	835.0	828.0	825.0
27.5°	840.9	837.0	833.1	829.2	825.2	819.5	811.9	804.4	796.8	789.2	785.6
30°	817.8	813.5	809.2	804.9	800.6	794.3	786.2	778.1	769.9	761.8	757.5
32.5°	793.6	788.7	783.8	778.9	774.1	767.4	759.0	750.6	742.2	733.8	728.8
35°	755.6	750.1	744.5	739.0	733.5	726.4	717.7	709.1	700.4	691.8	685.9
37.5°	715.0	709.3	703.6	697.9	692.1	684.5	674.9	665.3	655.8	646.2	639.6
40°	686.3	680.6	674.9	669.2	663.5	655.7	645.9	636.0	626.2	616.3	609.0
42.5°	658.9	653.0	647.0	641.0	635.0	626.9	616.6	606.3	596.1	585.8	578.4
45°	616.3	609.9	603.5	597.1	590.7	582.3	571.9	561.6	551.2	540.8	532.3
47.5°	572.3	565.7	559.0	552.4	545.8	537.1	526.3	515.6	504.8	494.0	485.2
50°	542.4	535.6	528.9	522.1	515.4	506.5	495.4	484.4	473.3	462.2	453.6
52.5°	511.9	505.3	498.7	492.1	485.4	476.5	465.1	453.8	442.4	431.1	422.3
55°	466.9	460.0	453.1	446.1	439.2	430.1	418.9	407.7	396.4	385.2	376.2
57.5°	422.4	415.2	408.0	400.8	393.6	384.5	373.4	362.3	351.3	340.2	331.1
60°	390.6	383.7	376.8	369.9	363.0	354.0	342.9	331.8	320.8	309.7	300.7
62.5°	362.0	354.8	347.6	340.4	333.2	324.0	312.6	301.3	289.9	278.6	270.3
65°	317.5	310.1	302.6	295.2	287.7	278.5	267.4	256.4	245.3	234.2	226.8
67.5°	271.3	264.1	257.0	249.9	242.8	234.1	223.8	213.5	203.3	193.0	186.6
70°	242.0	234.7	227.5	220.2	213.0	204.4	194.5	184.7	174.8	165.0	159.3
72.5°	210.9	204.3	197.7	191.2	184.6	176.7	167.4	158.1	148.7	139.4	134.6
75°	168.9	162.5	156.1	149.7	143.3	136.0	127.9	119.7	111.6	103.5	99.5
77.5°	126.2	120.8	115.4	109.9	104.5	98.5	91.9	85.4	78.8	72.2	69.9
80°	98.8	93.8	88.8	83.8	78.8	73.7	68.5	63.3	58.1	52.9	52.4
82.5°	75.2	70.6	66.0	61.4	56.8	53.0	50.0	47.0	44.1	41.1	40.7
85°	42.0	38.6	35.1	31.6	28.2	26.2	25.7	25.2	24.6	24.1	23.8
87.5°	15.2	14.9	14.5	14.1	13.7	13.8	14.2	14.6	15.0	15.3	15.6
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°	32.3	36.5	40.7	44.9	49.2	52.2	54.1	56.0	57.8	59.7	60.9
95°	90.5	93.5	96.5	99.5	102.5	105.2	107.6	109.9	112.3	114.6	115.6
97.5°	158.0	160.4	162.8	165.3	167.7	170.3	173.0	175.7	178.5	181.2	182.4
100°	211.1	212.4	213.8	215.1	216.5	218.6	221.7	224.7	227.7	230.7	231.4
102.5°	266.6	267.1	267.7	268.2	268.7	270.4	273.1	275.9	278.6	281.4	282.3
105°	351.3	351.7	352.0	352.3	352.7	353.5	354.8	356.2	357.5	358.9	359.9
107.5°	440.3	440.7	441.1	441.5	441.9	442.2	442.4	442.6	442.8	443.0	443.9
110°	500.6	501.3	501.9	502.6	503.3	503.5	503.1	502.8	502.4	502.1	501.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	563.3	563.5	563.6	563.7	563.9	563.6	563.0	562.4	561.8	561.2	561.1
115°	657.4	657.4	657.4	657.4	657.4	657.1	656.4	655.7	655.1	654.4	654.1
117.5°	746.1	746.3	746.6	746.9	747.2	747.1	746.6	746.1	745.6	745.2	744.0
120°	805.2	806.5	807.9	809.2	810.5	810.7	809.7	808.7	807.7	806.7	805.0
122.5°	866.7	867.2	867.8	868.3	868.8	868.9	868.4	867.9	867.5	867.0	865.9
125°	957.5	957.5	957.5	957.5	957.5	957.3	957.0	956.6	956.3	956.0	955.3
127.5°	1039.8	1040.8	1041.8	1042.8	1043.8	1044.1	1043.5	1043.0	1042.5	1041.9	1041.2
130°	1097.7	1098.7	1099.7	1100.7	1101.7	1102.2	1102.2	1102.2	1102.2	1102.2	1101.6
132.5°	1156.8	1157.6	1158.3	1159.0	1159.8	1160.0	1159.7	1159.5	1159.2	1158.9	1158.3
135°	1234.9	1236.9	1238.9	1241.0	1243.0	1244.0	1244.0	1244.0	1244.0	1244.0	1243.3
137.5°	1320.0	1320.9	1321.8	1322.8	1323.7	1324.5	1325.0	1325.5	1326.1	1326.6	1325.7
140°	1376.7	1377.3	1378.0	1378.7	1379.3	1379.7	1379.7	1379.7	1379.7	1379.7	1379.3
142.5°	1428.5	1429.2	1429.9	1430.5	1431.2	1431.4	1431.1	1430.9	1430.6	1430.3	1430.3
145°	1500.3	1501.6	1503.0	1504.3	1505.7	1506.5	1506.8	1507.2	1507.5	1507.8	1507.5
147.5°	1571.5	1573.1	1574.7	1576.3	1577.9	1578.6	1578.3	1578.0	1577.8	1577.5	1577.2
150°	1614.9	1616.2	1617.6	1618.9	1620.3	1620.9	1620.9	1620.9	1620.9	1620.9	1620.9
152.5°	1655.9	1656.7	1657.5	1658.3	1659.1	1659.7	1659.9	1660.2	1660.5	1660.7	1661.5
155°	1718.9	1718.9	1718.9	1718.9	1718.9	1718.8	1718.8	1718.1	1717.8	1717.4	1718.8
157.5°	1772.0	1771.4	1770.8	1770.2	1769.6	1769.3	1769.2	1769.1	1769.1	1769.0	1770.0
160°	1803.4	1803.0	1802.7	1802.4	1802.0	1801.7	1801.4	1801.0	1800.7	1800.4	1801.4
162.5°	1832.3	1831.5	1830.6	1829.7	1828.8	1828.2	1827.9	1827.6	1827.2	1826.9	1828.7
165°	1871.2	1870.2	1869.2	1868.2	1867.2	1866.4	1865.7	1865.0	1864.4	1863.7	1865.7
167.5°	1901.1	1899.7	1898.3	1896.9	1895.5	1894.8	1894.9	1894.9	1895.0	1895.1	1897.1
170°	1918.0	1916.3	1914.6	1912.9	1911.3	1910.6	1910.9	1911.3	1911.6	1911.9	1913.9
172.5°	1930.0	1928.6	1927.2	1925.8	1924.4	1923.7	1923.8	1923.9	1923.9	1924.0	1926.3
175°	1946.6	1944.9	1943.3	1941.6	1939.9	1938.9	1938.6	1938.2	1937.9	1937.6	1939.9
177.5°	1952.0	1950.7	1949.4	1948.0	1946.7	1946.0	1946.0	1946.0	1946.0	1946.0	1947.9
180°	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3	1016.3
2.5°	1012.5	1014.0	1015.5	1016.2	1016.1	1015.9	1015.8	1015.7
5°	1005.7	1007.5	1009.2	1009.9	1009.5	1009.2	1008.8	1008.5
7.5°	992.3	993.4	994.6	994.8	994.3	993.7	993.2	992.6
10°	980.3	981.0	981.7	981.7	981.0	980.3	979.6	978.9
12.5°	965.4	965.8	966.3	966.0	965.0	964.1	963.1	962.1
15°	939.3	939.0	938.6	937.9	936.6	935.4	934.2	933.0
17.5°	907.9	906.9	905.9	904.5	902.7	900.9	899.0	897.2
20°	885.9	884.5	883.1	881.3	879.1	876.8	874.6	872.3
22.5°	861.5	859.4	857.3	855.4	853.5	851.7	849.9	848.0
25°	822.1	819.1	816.2	813.9	812.1	810.4	808.7	806.9
27.5°	781.9	778.3	774.7	771.6	769.1	766.6	764.2	761.7
30°	753.2	748.8	744.5	741.0	738.2	735.4	732.7	729.9
32.5°	723.8	718.8	713.7	709.9	707.3	704.7	702.0	699.4
35°	680.0	674.1	668.3	663.8	660.7	657.5	654.4	651.3
37.5°	633.0	626.5	619.9	615.1	611.9	608.8	605.7	602.6
40°	601.8	594.5	587.2	582.1	578.9	575.8	572.7	569.6
42.5°	571.0	563.6	556.2	550.9	547.6	544.4	541.1	537.9
45°	523.9	515.4	506.9	501.1	498.0	494.9	491.8	488.7
47.5°	476.4	467.6	458.8	452.7	449.3	445.9	442.5	439.0
50°	444.9	436.3	427.6	421.7	418.4	415.1	411.8	408.5
52.5°	413.5	404.7	396.0	389.9	386.4	383.0	379.6	376.2
55°	367.2	358.2	349.2	343.1	339.8	336.5	333.2	329.9
57.5°	321.9	312.8	303.7	297.9	295.4	292.9	290.4	287.9
60°	291.7	282.7	273.7	267.9	265.1	262.3	259.6	256.8
62.5°	262.0	253.7	245.4	240.1	237.9	235.7	233.5	231.3
65°	219.4	211.9	204.5	199.7	197.7	195.6	193.5	191.4
67.5°	180.2	173.8	167.4	163.1	160.8	158.5	156.2	153.9
70°	153.6	147.9	142.1	138.4	136.7	135.0	133.2	131.5
72.5°	129.7	124.8	119.9	116.7	115.1	113.5	111.9	110.3
75°	95.5	91.6	87.6	85.1	84.0	83.0	82.0	80.9
77.5°	67.6	65.3	62.9	61.6	61.3	61.0	60.7	60.4
80°	51.9	51.4	50.8	50.5	50.3	50.1	50.0	49.8
82.5°	40.3	39.9	39.6	39.3	39.1	38.9	38.8	38.6
85°	23.4	23.1	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	15.9	16.1	16.4	16.7	16.9	17.2	17.5	17.8
90°	37.2	39.2	41.2	42.6	43.2	43.9	44.6	45.2
92.5°	62.1	63.3	64.5	65.3	65.7	66.1	66.5	66.9
95°	116.6	117.6	118.6	119.1	119.1	119.1	119.1	119.1
97.5°	183.7	184.9	186.1	186.7	186.7	186.7	186.7	186.7
100°	232.0	232.7	233.4	233.7	233.7	233.7	233.7	233.7
102.5°	283.2	284.2	285.1	285.7	286.0	286.3	286.5	286.8
105°	360.9	361.9	362.9	363.9	364.9	365.9	366.9	367.9
107.5°	444.9	445.8	446.8	447.2	447.1	447.1	447.0	446.9
110°	500.8	500.1	499.4	499.6	500.6	501.6	502.6	503.6



TEST NUMBER: P333054

CATALOG NUMBER: S124RDIW-S575D1560U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	560.9	560.8	560.7	560.7	560.9	561.1	561.3	561.5
115°	653.7	653.4	653.1	652.7	652.4	652.1	651.7	651.4
117.5°	742.9	741.8	740.6	739.7	739.0	738.4	737.7	737.0
120°	803.3	801.7	800.0	799.5	800.2	800.8	801.5	802.2
122.5°	864.7	863.6	862.5	861.3	860.1	858.9	857.7	856.5
125°	954.6	954.0	953.3	952.6	951.9	951.3	950.6	949.9
127.5°	1040.6	1039.9	1039.2	1038.6	1038.1	1037.6	1037.0	1036.5
130°	1100.9	1100.2	1099.5	1098.5	1097.2	1095.9	1094.5	1093.2
132.5°	1157.6	1156.9	1156.2	1155.6	1155.1	1154.6	1154.0	1153.5
135°	1242.6	1242.0	1241.3	1240.4	1239.4	1238.4	1237.4	1236.4
137.5°	1324.9	1324.0	1323.1	1322.8	1323.0	1323.2	1323.4	1323.6
140°	1379.0	1378.7	1378.3	1378.0	1377.7	1377.3	1377.0	1376.7
142.5°	1430.2	1430.1	1430.1	1430.0	1429.9	1429.9	1429.8	1429.7
145°	1507.2	1506.8	1506.5	1505.8	1504.8	1503.8	1502.8	1501.8
147.5°	1577.0	1576.7	1576.4	1576.1	1575.8	1575.5	1575.1	1574.8
150°	1620.9	1620.9	1620.9	1620.8	1620.4	1620.1	1619.8	1619.4
152.5°	1662.3	1663.1	1663.9	1663.9	1663.0	1662.2	1661.3	1660.4
155°	1720.1	1721.4	1722.8	1722.8	1721.4	1720.1	1718.8	1717.4
157.5°	1771.0	1772.0	1773.0	1772.9	1771.8	1770.7	1769.5	1768.4
160°	1802.4	1803.4	1804.4	1804.0	1802.4	1800.7	1799.0	1797.3
162.5°	1830.5	1832.3	1834.1	1834.2	1832.5	1830.9	1829.2	1827.5
165°	1867.7	1869.7	1871.7	1872.1	1870.7	1869.4	1868.0	1866.7
167.5°	1899.1	1901.1	1903.1	1903.1	1901.0	1898.9	1896.8	1894.7
170°	1916.0	1918.0	1920.0	1919.8	1917.5	1915.1	1912.8	1910.4
172.5°	1928.6	1930.8	1933.1	1933.1	1930.7	1928.4	1926.0	1923.7
175°	1942.3	1944.6	1947.0	1947.0	1944.6	1942.3	1939.9	1937.6
177.5°	1949.8	1951.6	1953.5	1953.4	1951.2	1949.1	1947.0	1944.8
180°	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6	1949.6

(END OF REPORT)