

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: P333054-840

Luminaire Tested: **S124RDIW-S575D1560U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333054-840
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-S575D1560U840-4F0-1E-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: 7839.6 lumens
Efficiency: N/A
Efficacy: 129.4 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

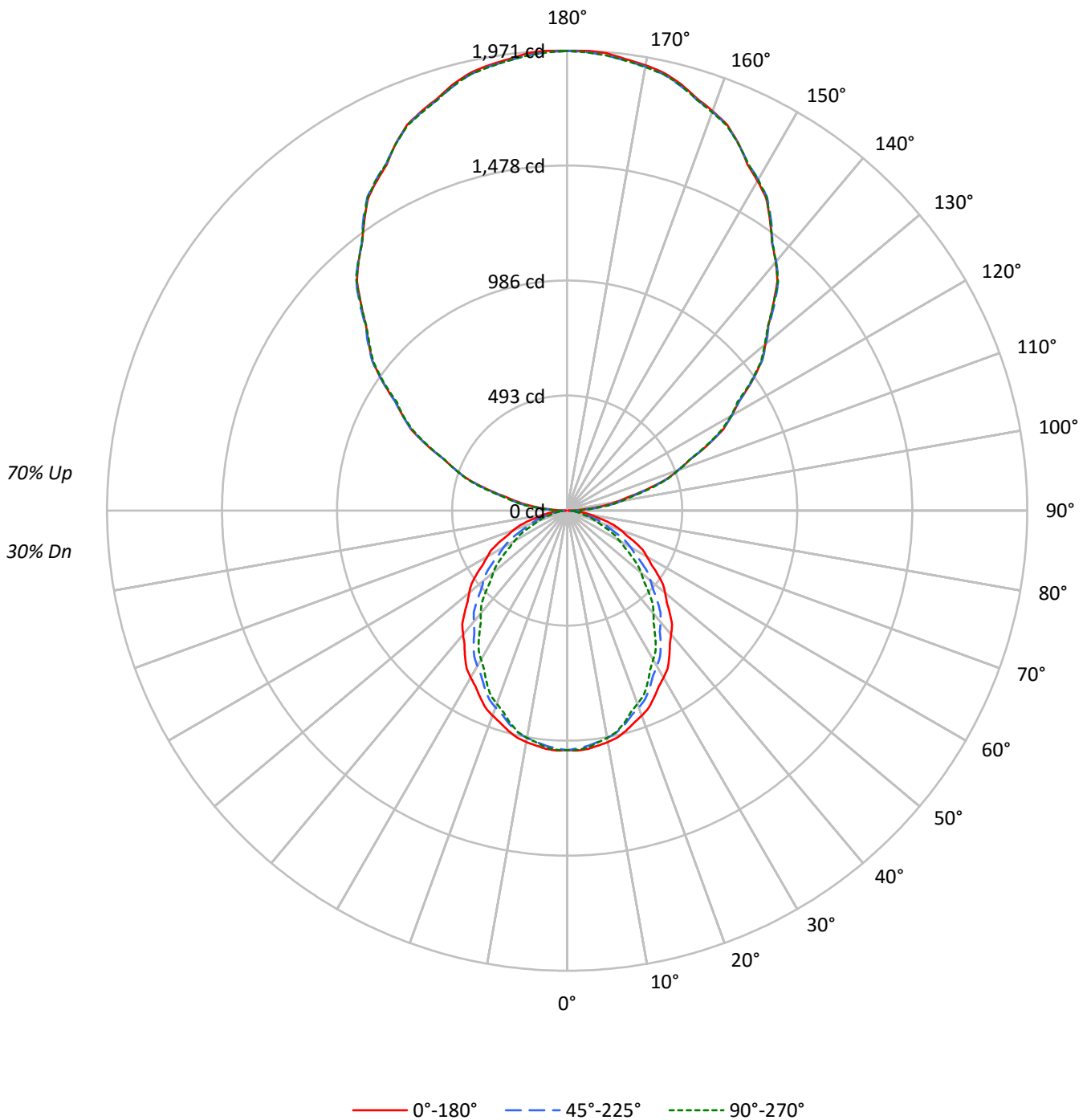
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	1.2
10°-20°	268.8	3.4
20°-30°	388.2	5.0
30°-40°	440.0	5.6
40°-50°	424.9	5.4
50°-60°	353.4	4.5
60°-70°	244.0	3.1
70°-80°	123.7	1.6
80°-90°	37.6	0.5
90°-100°	129.9	1.7
100°-110°	384.7	4.9
110°-120°	652.9	8.3
120°-130°	861.0	11.0
130°-140°	966.9	12.3
140°-150°	950.1	12.1
150°-160°	799.1	10.2
160°-170°	531.7	6.8
170°-180°	186.2	2.4
0°-30°	753.5	9.6
0°-40°	1193.5	15.2
0°-60°	1971.8	25.2
0°-90°	2377.1	30.3
90°-120°	1167.5	14.9
90°-150°	3945.5	50.3
90°-180°	5463.0	69.7
0°-180°	7839.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	4	21	34	42	46	8
95°	91	105	116	120	120	102
105°	355	357	362	367	372	376
115°	664	664	661	659	658	654
125°	967	967	965	962	959	861
135°	1247	1256	1256	1253	1249	964
145°	1515	1521	1523	1521	1517	948
155°	1736	1736	1734	1740	1734	798
165°	1890	1885	1882	1890	1885	532
175°	1966	1958	1957	1966	1957	187
180°	1969	1969	1969	1969	1969	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	15.3	15.0	14.6	14.2	13.8	13.9	14.3	14.7	15.1	15.5	15.8
90°	4.5	8.3	12.0	15.8	19.5	22.7	25.3	28.1	30.8	33.5	35.5
92.5°	32.6	36.9	41.1	45.3	49.7	52.7	54.6	56.6	58.4	60.3	61.5
95°	91.4	94.4	97.5	100.5	103.5	106.2	108.7	111.0	113.4	115.7	116.7
97.5°	159.6	162.0	164.4	166.9	169.4	172.0	174.7	177.4	180.3	183.0	184.2
100°	213.2	214.5	215.9	217.2	218.6	220.8	223.9	226.9	229.9	233.0	233.7
102.5°	269.2	269.7	270.3	270.8	271.4	273.1	275.8	278.6	281.3	284.2	285.1
105°	354.8	355.2	355.5	355.8	356.2	357.0	358.3	359.7	361.0	362.4	363.5
107.5°	444.6	445.0	445.5	445.9	446.3	446.6	446.8	447.0	447.2	447.4	448.3
110°	505.5	506.2	506.9	507.6	508.3	508.5	508.1	507.8	507.4	507.1	506.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	568.9	569.1	569.2	569.3	569.5	569.2	568.6	567.9	567.3	566.7	566.6
115°	663.9	663.9	663.9	663.9	663.9	663.6	662.9	662.2	661.6	660.9	660.6
117.5°	753.5	753.7	754.0	754.3	754.6	754.5	754.0	753.5	753.0	752.6	751.3
120°	813.1	814.5	815.9	817.2	818.5	818.7	817.7	816.7	815.7	814.7	812.9
122.5°	875.3	875.8	876.4	876.9	877.4	877.5	877.0	876.5	876.1	875.6	874.4
125°	966.9	966.9	966.9	966.9	966.9	966.7	966.4	966.0	965.7	965.4	964.7
127.5°	1050.1	1051.1	1052.1	1053.1	1054.1	1054.4	1053.8	1053.3	1052.8	1052.2	1051.5
130°	1108.5	1109.5	1110.5	1111.6	1112.6	1113.1	1113.1	1113.1	1113.1	1113.1	1112.5
132.5°	1168.2	1169.0	1169.7	1170.4	1171.2	1171.4	1171.1	1170.9	1170.6	1170.3	1169.7
135°	1247.1	1249.1	1251.1	1253.2	1255.3	1256.3	1256.3	1256.3	1256.3	1256.3	1255.6
137.5°	1333.0	1333.9	1334.8	1335.8	1336.8	1337.6	1338.1	1338.6	1339.2	1339.7	1338.8
140°	1390.3	1390.9	1391.6	1392.3	1392.9	1393.3	1393.3	1393.3	1393.3	1393.3	1392.9
142.5°	1442.6	1443.3	1444.0	1444.6	1445.3	1445.5	1445.2	1445.0	1444.7	1444.4	1444.4
145°	1515.1	1516.4	1517.8	1519.1	1520.6	1521.4	1521.7	1522.1	1522.4	1522.7	1522.4
147.5°	1587.0	1588.6	1590.2	1591.9	1593.5	1594.2	1593.9	1593.6	1593.4	1593.1	1592.8
150°	1630.8	1632.1	1633.6	1634.9	1636.3	1636.9	1636.9	1636.9	1636.9	1636.9	1636.9
152.5°	1672.2	1673.0	1673.9	1674.7	1675.5	1676.1	1676.3	1676.6	1676.9	1677.1	1677.9
155°	1735.9	1735.9	1735.9	1735.9	1735.9	1735.8	1735.4	1735.0	1734.7	1734.3	1735.8
157.5°	1789.5	1788.9	1788.3	1787.7	1787.1	1786.8	1786.7	1786.6	1786.6	1786.5	1787.5
160°	1821.2	1820.8	1820.5	1820.2	1819.8	1819.5	1819.2	1818.8	1818.5	1818.2	1819.2
162.5°	1850.4	1849.6	1848.7	1847.8	1846.8	1846.2	1845.9	1845.6	1845.2	1844.9	1846.7
165°	1889.7	1888.6	1887.6	1886.6	1885.6	1884.8	1884.1	1883.4	1882.8	1882.1	1884.1
167.5°	1919.9	1918.4	1917.0	1915.6	1914.2	1913.5	1913.6	1913.6	1913.7	1913.8	1915.8
170°	1936.9	1935.2	1933.5	1931.8	1930.2	1929.4	1929.8	1930.2	1930.5	1930.8	1932.8
172.5°	1949.0	1947.6	1946.2	1944.8	1943.4	1942.7	1942.8	1942.9	1942.9	1943.0	1945.3
175°	1965.8	1964.1	1962.5	1960.8	1959.0	1958.0	1957.7	1957.3	1957.0	1956.7	1959.0
177.5°	1971.3	1969.9	1968.6	1967.2	1965.9	1965.2	1965.2	1965.2	1965.2	1965.2	1967.1
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	16.1	16.3	16.6	16.9	17.1	17.4	17.7	18.0
90°	37.6	39.6	41.6	43.0	43.6	44.3	45.0	45.6
92.5°	62.7	63.9	65.1	65.9	66.3	66.8	67.2	67.6
95°	117.8	118.8	119.8	120.3	120.3	120.3	120.3	120.3
97.5°	185.5	186.7	187.9	188.5	188.5	188.5	188.5	188.5
100°	234.3	235.0	235.7	236.0	236.0	236.0	236.0	236.0
102.5°	286.0	287.0	287.9	288.5	288.8	289.1	289.3	289.6
105°	364.5	365.5	366.5	367.5	368.5	369.5	370.5	371.5
107.5°	449.3	450.2	451.2	451.6	451.5	451.5	451.4	451.3
110°	505.7	505.0	504.3	504.5	505.5	506.5	507.6	508.6



TEST NUMBER: P333054-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	566.4	566.3	566.2	566.2	566.4	566.6	566.8	567.0
115°	660.1	659.8	659.5	659.1	658.8	658.5	658.1	657.8
117.5°	750.2	749.1	747.9	747.0	746.3	745.7	745.0	744.3
120°	811.2	809.6	807.9	807.4	808.1	808.7	809.4	810.1
122.5°	873.2	872.1	871.0	869.8	868.6	867.4	866.2	864.9
125°	964.0	963.4	962.7	962.0	961.3	960.7	960.0	959.3
127.5°	1050.9	1050.2	1049.5	1048.8	1048.3	1047.8	1047.2	1046.7
130°	1111.8	1111.1	1110.3	1109.3	1108.0	1106.7	1105.3	1104.0
132.5°	1169.0	1168.3	1167.6	1167.0	1166.5	1166.0	1165.4	1164.9
135°	1254.9	1254.3	1253.5	1252.6	1251.6	1250.6	1249.6	1248.6
137.5°	1338.0	1337.1	1336.2	1335.8	1336.1	1336.3	1336.5	1336.7
140°	1392.6	1392.3	1391.9	1391.6	1391.3	1390.9	1390.6	1390.3
142.5°	1444.3	1444.2	1444.2	1444.1	1444.0	1444.0	1443.9	1443.8
145°	1522.1	1521.7	1521.4	1520.7	1519.6	1518.6	1517.6	1516.6
147.5°	1592.6	1592.3	1592.0	1591.6	1591.3	1591.0	1590.6	1590.3
150°	1636.9	1636.9	1636.9	1636.8	1636.4	1636.1	1635.8	1635.4
152.5°	1678.7	1679.5	1680.3	1680.3	1679.4	1678.6	1677.7	1676.8
155°	1737.1	1738.4	1739.8	1739.8	1738.4	1737.1	1735.8	1734.3
157.5°	1788.5	1789.5	1790.5	1790.4	1789.3	1788.2	1787.0	1785.8
160°	1820.2	1821.2	1822.2	1821.8	1820.2	1818.5	1816.7	1815.0
162.5°	1848.6	1850.4	1852.2	1852.3	1850.6	1849.0	1847.2	1845.5
165°	1886.1	1888.1	1890.2	1890.6	1889.2	1887.8	1886.4	1885.1
167.5°	1917.8	1919.9	1921.9	1921.9	1919.8	1917.6	1915.5	1913.4
170°	1934.9	1936.9	1938.9	1938.7	1936.4	1934.0	1931.7	1929.2
172.5°	1947.6	1949.8	1952.2	1952.2	1949.7	1947.4	1945.0	1942.7
175°	1961.5	1963.8	1966.2	1966.2	1963.8	1961.5	1959.0	1956.7
177.5°	1969.0	1970.9	1972.8	1972.7	1970.4	1968.3	1966.2	1964.0
180°	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8	1968.8

(END OF REPORT)