

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: INVUE

Report Number: P142045

Luminaire Tested: **ECM-F03-LED-E1-T4**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P142045
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33685)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F03-LED-E1-T4
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7122.1 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

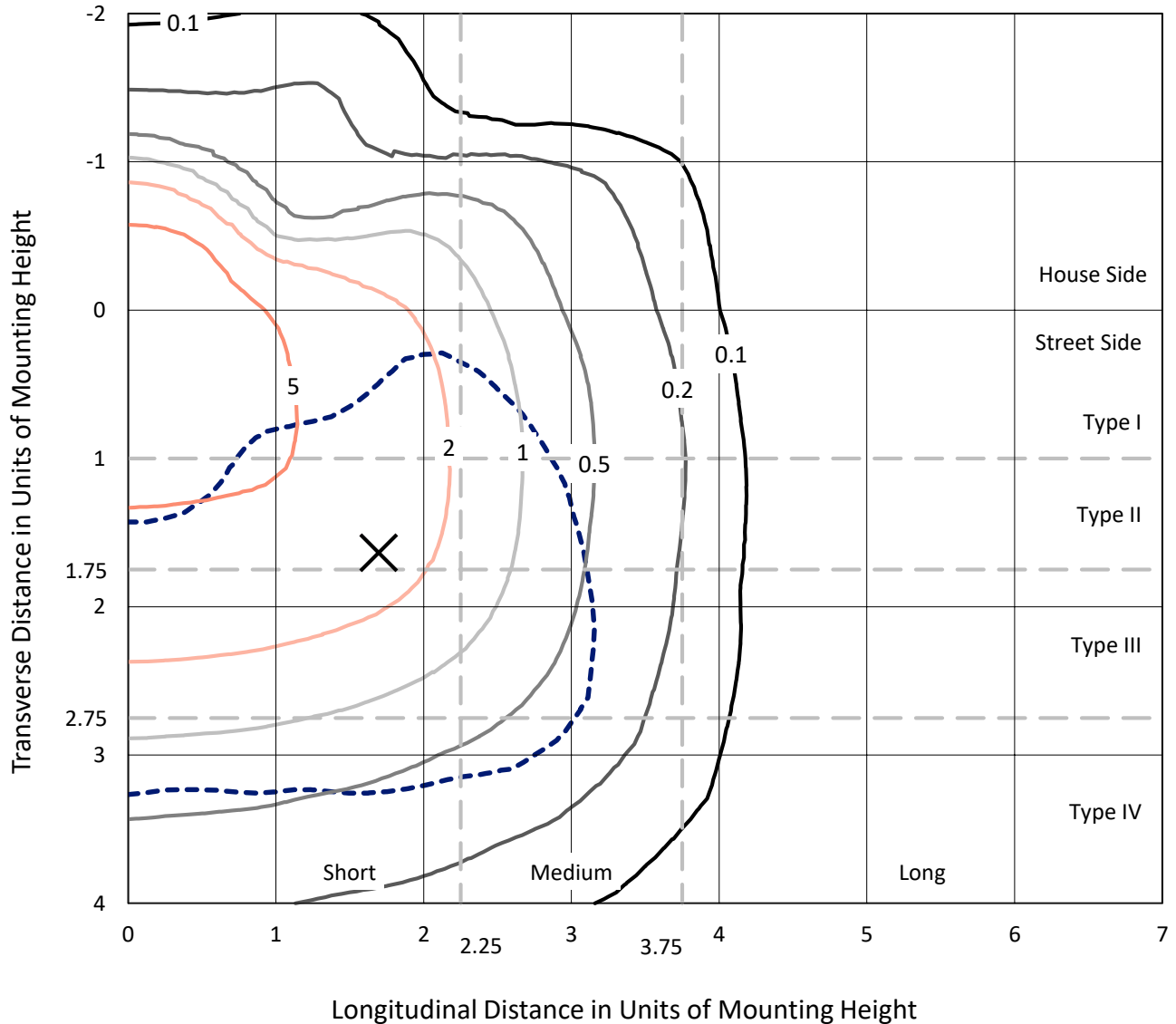
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

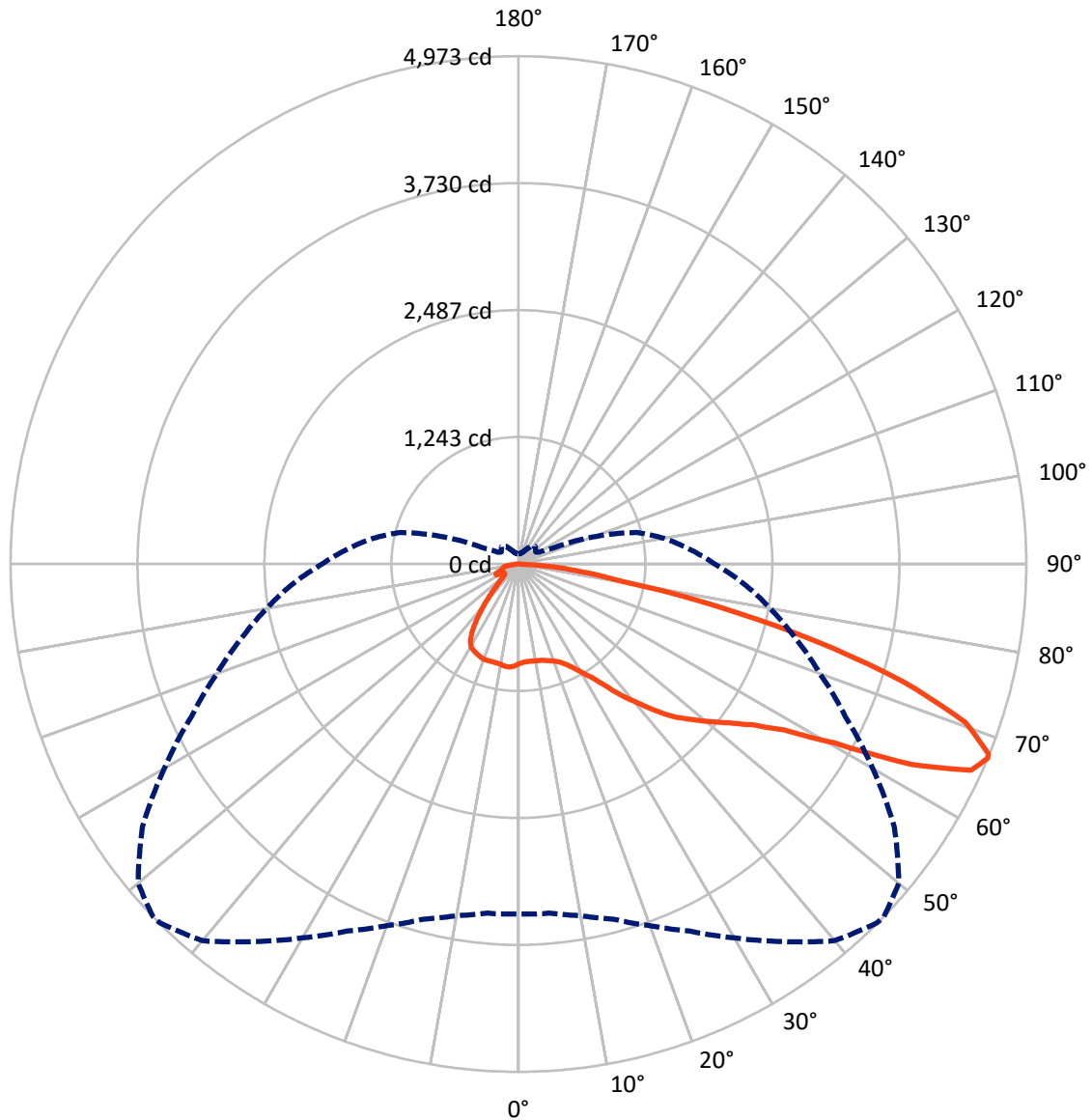
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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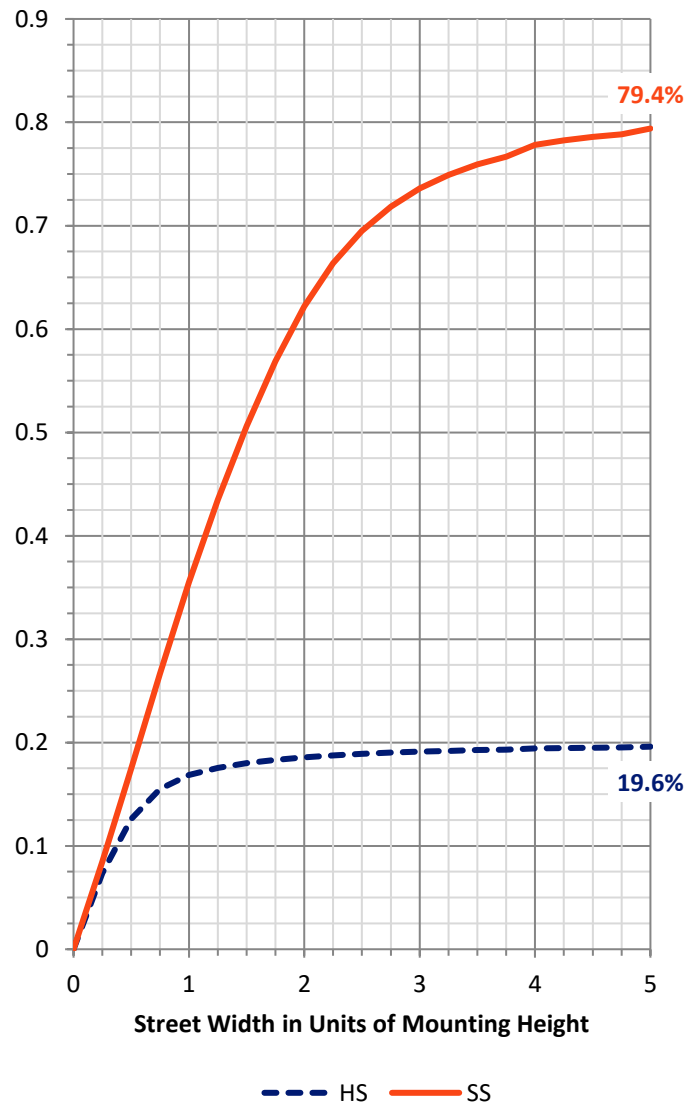
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1415.3	0.0	1415.3
	% Fixture	19.9	0.0	19.9
Street Side	Lumens	5706.8	0.0	5706.8
	% Fixture	80.1	0.0	80.1
Total	Lumens	7122.1	0.0	7122.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.9	1.3
10°-20°	280.3	3.9
20°-30°	471.3	6.6
30°-40°	704.8	9.9
40°-50°	918.1	12.9
50°-60°	1257.3	17.7
60°-70°	1987.7	27.9
70°-80°	1233.0	17.3
80°-90°	175.7	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	7122.1	100.0
0°-180°	7122.1	100.0

Coefficient of Utilization



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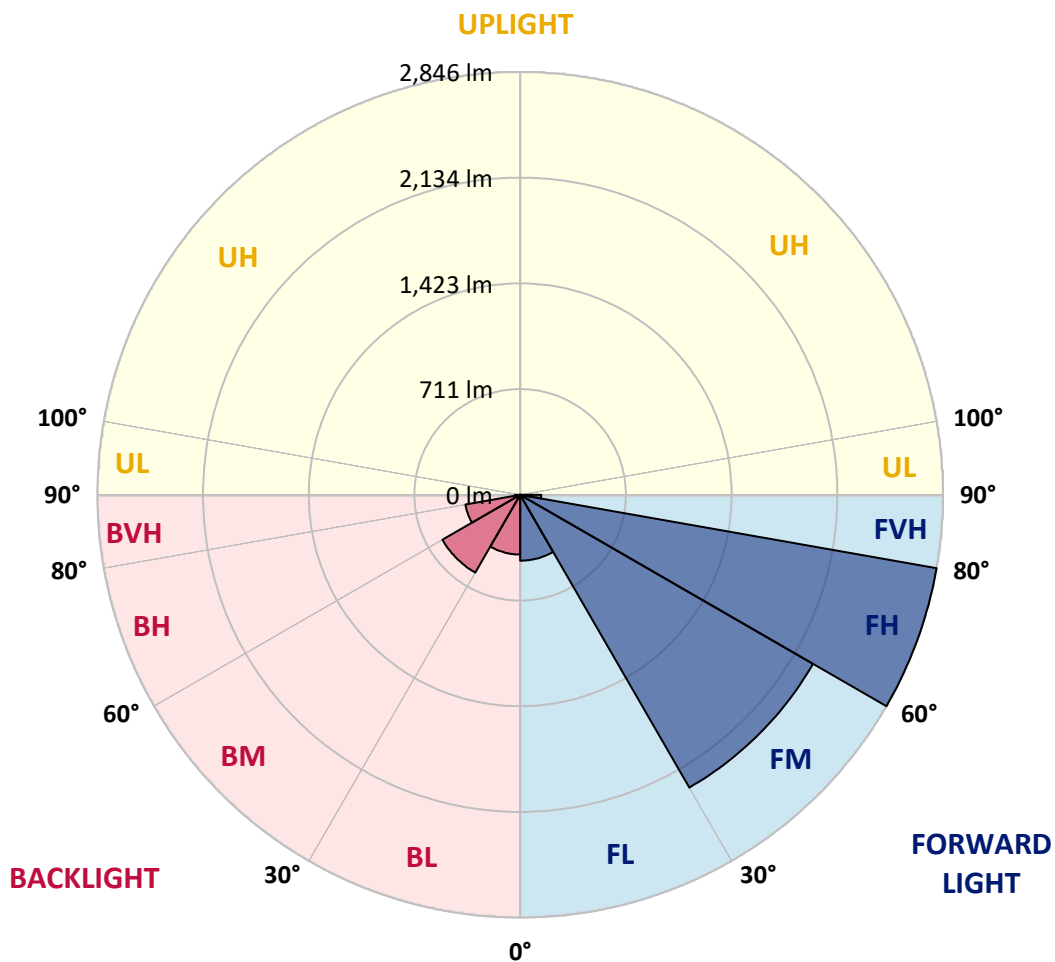
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	443.5	6.2			
FM	(30°-60°)	2275.8	32.0			
FH	(60°-80°)	2846.0	40.0			G2/5000
FVH	(80°-90°)	141.5	2.0			G2/225
BL	(0°-30°)	402.0	5.6	B1/500		
BM	(30°-60°)	604.4	8.5	B1/1000		
BH	(60°-80°)	374.7	5.3	B1/500		G1/500
BVH	(80°-90°)	34.2	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	46°
0°	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8
2.5°	954.3	956.8	956.0	955.1	956.0	956.8	957.6	960.1	960.9	961.7	962.6
5°	937.0	939.4	938.6	940.3	941.1	944.4	946.9	951.0	953.5	956.8	958.4
7.5°	932.0	933.7	933.7	935.3	936.1	939.4	943.6	948.5	953.5	958.4	960.1
10°	945.2	946.1	946.1	945.2	946.1	947.7	949.4	953.5	957.6	961.7	963.4
12.5°	976.6	974.1	973.3	970.8	971.6	968.3	968.3	967.5	967.5	968.3	968.3
15°	1009.6	1008.0	1006.3	1002.2	1002.2	997.2	995.6	992.3	984.0	980.7	979.9
17.5°	1039.3	1037.7	1034.4	1031.1	1029.4	1022.8	1021.2	1015.4	1005.5	998.1	995.6
20°	1074.8	1070.7	1063.3	1061.6	1057.5	1050.1	1047.6	1040.2	1027.0	1016.2	1015.4
22.5°	1129.3	1122.7	1115.3	1109.5	1098.8	1091.3	1084.7	1074.8	1059.1	1046.8	1043.5
25°	1183.8	1181.3	1174.7	1166.5	1159.0	1150.8	1142.5	1127.7	1107.0	1091.3	1088.0
27.5°	1260.6	1254.8	1246.5	1233.3	1229.2	1215.2	1208.6	1196.2	1175.5	1155.7	1152.4
30°	1340.7	1334.9	1321.7	1310.1	1307.6	1292.8	1288.6	1275.4	1257.3	1237.5	1235.0
32.5°	1432.3	1426.5	1416.6	1410.0	1400.9	1392.7	1382.8	1370.4	1347.3	1330.7	1327.4
35°	1549.5	1544.6	1533.0	1538.0	1529.7	1527.2	1521.4	1500.8	1475.2	1455.4	1458.7
37.5°	1642.0	1641.1	1643.6	1641.1	1651.9	1662.6	1662.6	1664.3	1651.9	1630.4	1626.3
40°	1728.6	1727.8	1734.4	1741.9	1770.8	1788.1	1807.9	1815.3	1802.1	1785.6	1779.8
42.5°	1809.6	1807.9	1817.0	1844.2	1879.7	1911.9	1945.8	1974.7	1981.3	1963.1	1959.0
45°	1889.6	1892.1	1903.7	1934.2	1981.3	2023.4	2081.1	2115.0	2136.5	2126.6	2133.2
47.5°	1986.2	1988.7	2001.1	2037.4	2078.7	2131.5	2199.2	2257.0	2282.6	2282.6	2274.3
50°	2101.0	2112.5	2125.7	2150.5	2198.4	2250.4	2332.9	2390.7	2432.0	2430.3	2423.7
52.5°	2253.7	2256.2	2277.6	2297.4	2338.7	2391.5	2465.8	2545.1	2597.1	2592.1	2584.7
55°	2459.2	2449.3	2463.4	2482.4	2526.9	2573.2	2654.1	2745.7	2798.5	2782.8	2777.9
57.5°	2718.5	2710.2	2720.1	2743.2	2799.4	2837.3	2902.5	2986.7	3061.0	3074.3	3062.7
60°	3092.4	3092.4	3112.2	3161.8	3218.7	3275.7	3359.1	3460.6	3537.4	3556.4	3555.5
62.5°	3535.7	3563.8	3567.9	3632.3	3741.3	3839.5	3969.1	4148.3	4263.0	4344.7	4323.3
65°	3606.7	3615.8	3652.1	3752.0	3899.8	4074.0	4275.4	4510.7	4749.2	4867.3	4870.6
67°	3428.4	3431.7	3495.3	3600.1	3769.3	3965.8	4226.7	4513.1	4815.3	4968.0	4973.0
67.5°	3373.1	3366.5	3423.5	3533.2	3718.2	3939.4	4184.6	4485.9	4798.0	4961.4	4963.9
70°	3002.4	3005.7	3050.3	3172.5	3368.1	3575.3	3849.4	4159.0	4487.6	4637.0	4644.4
72.5°	2588.8	2567.4	2607.8	2738.3	2831.6	3033.8	3285.6	3519.2	3808.1	3949.3	3946.0
75°	1974.7	1915.2	1986.2	2062.2	2114.2	2314.8	2471.6	2632.6	2899.2	3006.6	3000.8
77.5°	1064.1	1061.6	1139.2	1198.7	1276.3	1457.1	1594.9	1696.5	1921.0	1973.8	1980.4
80°	577.9	599.3	645.6	711.6	774.3	861.0	941.1	1004.7	1078.1	1044.3	1036.9
82.5°	348.4	383.9	454.9	505.2	530.0	568.8	625.7	662.1	691.0	628.2	615.8
85°	55.3	99.9	256.7	307.1	333.5	351.7	364.1	388.0	354.2	331.9	337.6
87.5°	18.2	20.6	39.6	87.5	76.8	52.8	69.3	100.7	47.9	25.6	24.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8
2.5°	963.4	964.2	966.7	970.0	971.6	975.8	975.8	979.1	979.1	981.5	984.0
5°	960.9	965.0	968.3	973.3	975.8	981.5	984.0	989.0	991.5	994.8	998.1
7.5°	965.0	970.8	974.9	980.7	984.9	990.6	993.1	997.2	999.7	1003.8	1005.5
10°	968.3	974.1	979.1	985.7	989.0	993.1	995.6	998.9	999.7	1002.2	1003.8
12.5°	972.5	974.9	979.1	984.9	988.2	990.6	993.1	995.6	998.1	998.1	998.1
15°	978.2	975.8	976.6	981.5	984.9	986.5	989.0	990.6	991.5	991.5	989.8
17.5°	990.6	984.0	979.9	979.9	981.5	983.2	983.2	980.7	979.1	976.6	973.3
20°	1008.8	998.1	989.8	985.7	982.4	978.2	971.6	963.4	956.0	949.4	945.2
22.5°	1034.4	1023.7	1013.7	1004.7	993.9	979.9	965.9	948.5	934.5	923.8	919.6
25°	1082.3	1066.6	1059.1	1045.1	1028.6	1006.3	984.9	960.9	944.4	929.5	922.9
27.5°	1146.7	1134.3	1117.8	1110.3	1088.9	1063.3	1039.3	1010.4	987.3	969.2	956.8
30°	1228.4	1220.1	1206.1	1193.7	1173.1	1150.0	1114.5	1082.3	1041.8	1009.6	991.5
32.5°	1322.5	1310.1	1297.7	1282.0	1267.2	1236.6	1203.6	1154.9	1098.8	1043.5	1009.6
35°	1440.5	1428.2	1419.9	1395.1	1370.4	1337.4	1292.8	1235.0	1156.6	1082.3	1024.5
37.5°	1603.2	1576.8	1536.3	1500.8	1456.2	1405.9	1355.5	1286.2	1198.7	1102.1	1022.8
40°	1744.3	1705.5	1660.1	1599.0	1536.3	1470.3	1410.8	1335.7	1233.3	1118.6	1011.3
42.5°	1927.6	1860.7	1784.0	1703.1	1617.2	1538.0	1464.5	1378.6	1258.9	1119.4	984.0
45°	2092.7	2010.2	1908.6	1798.8	1694.0	1597.4	1513.2	1418.3	1280.4	1116.1	952.7
47.5°	2239.6	2143.1	2019.2	1887.1	1763.3	1654.4	1561.9	1462.0	1308.5	1126.8	941.1
50°	2381.6	2271.0	2131.5	1971.4	1833.5	1714.6	1618.0	1510.7	1355.5	1163.2	959.3
52.5°	2533.5	2399.0	2241.3	2060.5	1910.3	1787.3	1679.1	1569.3	1411.6	1211.9	992.3
55°	2719.3	2566.6	2386.6	2186.8	2014.3	1877.2	1755.1	1639.5	1478.5	1272.1	1031.1
57.5°	2966.9	2812.6	2605.4	2375.0	2194.2	2031.6	1884.7	1754.2	1580.1	1355.5	1088.9
60°	3444.1	3253.4	2977.7	2727.5	2531.9	2340.4	2162.9	1984.6	1774.9	1523.9	1237.5
62.5°	4210.2	3944.4	3602.6	3254.2	2990.1	2736.6	2502.2	2270.2	2008.5	1727.0	1414.1
65°	4740.2	4411.6	3982.3	3545.6	3188.2	2878.6	2598.8	2323.0	2031.6	1763.3	1490.9
67°	4861.5	4494.2	4005.4	3531.6	3142.8	2806.8	2502.2	2214.9	1921.8	1678.3	1445.5
67.5°	4856.6	4490.0	3987.3	3501.9	3112.2	2781.2	2474.1	2172.0	1883.8	1645.3	1423.2
70°	4562.7	4194.5	3689.3	3206.3	2830.7	2501.3	2191.8	1928.4	1634.5	1441.4	1274.6
72.5°	3865.9	3545.6	3137.8	2703.6	2381.6	2086.9	1839.3	1580.9	1325.8	1197.0	1065.8
75°	2939.7	2655.7	2281.8	1963.9	1718.7	1514.0	1265.5	1095.5	916.3	828.0	780.9
77.5°	1942.5	1616.4	1358.0	1055.0	875.1	714.1	563.0	446.6	373.1	392.1	428.4
80°	1027.8	815.6	603.5	467.2	360.8	280.7	222.9	166.8	121.4	142.0	178.3
82.5°	559.7	477.2	352.5	280.7	229.5	189.9	146.1	102.4	75.9	84.2	121.4
85°	319.5	280.7	217.9	170.1	148.6	121.4	83.4	56.1	54.5	58.6	75.1
87.5°	52.8	71.0	57.8	39.6	44.6	43.8	38.8	29.7	22.3	31.4	40.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8	975.8
2.5°	985.7	988.2	991.5	992.3	991.5	993.9	998.1	1001.4	998.9	997.2	1001.4
5°	1001.4	1003.0	1007.1	1007.1	1008.0	1009.6	1012.1	1014.6	1011.3	1011.3	1012.9
7.5°	1008.0	1008.0	1012.1	1010.4	1010.4	1009.6	1012.1	1012.9	1008.0	1007.1	1008.0
10°	1003.8	1003.8	1005.5	1002.2	1001.4	1000.5	1000.5	1001.4	996.4	994.8	997.2
12.5°	998.1	998.1	996.4	994.8	993.1	991.5	993.1	993.9	990.6	990.6	991.5
15°	988.2	985.7	984.9	984.9	985.7	986.5	989.8	992.3	989.8	988.2	988.2
17.5°	971.6	970.0	972.5	977.4	983.2	987.3	992.3	993.9	988.2	981.5	976.6
20°	946.9	951.0	960.1	974.1	986.5	993.1	993.1	987.3	974.1	960.9	954.3
22.5°	921.3	932.8	952.7	974.1	989.0	991.5	982.4	970.0	951.8	937.8	925.4
25°	924.6	938.6	958.4	976.6	986.5	982.4	965.9	950.2	928.7	913.9	895.7
27.5°	959.3	972.5	982.4	988.2	984.9	971.6	952.7	931.2	907.3	886.6	865.2
30°	987.3	993.1	992.3	987.3	974.9	954.3	932.0	906.4	877.5	855.2	827.2
32.5°	992.3	981.5	965.0	946.9	930.4	907.3	881.7	851.9	819.7	790.9	762.8
35°	983.2	942.7	906.4	870.1	845.3	816.4	794.2	759.5	724.0	699.2	678.6
37.5°	949.4	879.2	821.4	770.2	733.9	700.9	667.0	633.2	603.5	591.9	586.1
40°	906.4	800.8	712.4	641.4	602.6	570.4	535.8	508.5	494.5	483.8	479.6
42.5°	843.7	711.6	601.8	525.9	476.3	446.6	412.8	397.9	391.3	393.8	390.5
45°	785.1	618.3	480.5	396.3	362.4	334.3	317.8	311.2	307.9	306.3	308.7
47.5°	743.8	546.5	387.2	301.3	273.2	253.4	246.8	244.4	243.5	240.2	239.4
50°	733.9	504.4	317.0	234.4	213.0	202.3	199.0	196.5	194.8	192.3	186.6
52.5°	745.4	492.8	282.3	201.4	183.3	175.0	172.5	168.4	166.8	160.2	152.7
55°	765.3	497.0	271.6	192.3	174.2	165.1	161.8	160.2	154.4	146.9	137.9
57.5°	806.5	522.6	276.6	194.8	175.8	167.6	165.9	164.3	156.8	146.1	134.6
60°	926.2	596.9	302.1	212.2	189.0	183.3	184.1	180.8	170.1	156.0	138.7
62.5°	1111.2	712.4	349.2	233.6	210.5	210.5	215.5	213.0	196.5	173.4	148.6
65°	1206.9	781.8	369.0	240.2	217.1	227.8	243.5	241.1	217.1	182.4	149.4
67°	1192.1	768.6	357.5	230.3	204.7	218.8	234.4	235.3	208.9	174.2	142.8
67.5°	1178.0	759.5	351.7	226.2	201.4	215.5	230.3	227.8	205.6	170.9	141.2
70°	1058.3	667.0	313.7	211.3	186.6	190.7	194.8	191.5	174.2	151.1	130.4
72.5°	913.9	553.9	276.6	202.3	178.3	171.7	171.7	165.9	154.4	138.7	123.8
75°	696.7	430.9	242.7	192.3	168.4	158.5	156.8	152.7	142.8	131.3	118.1
77.5°	425.1	308.7	210.5	177.5	156.0	147.8	148.6	146.1	136.2	125.5	113.1
80°	213.0	199.8	176.7	154.4	141.2	132.9	133.7	128.8	120.5	112.3	102.4
82.5°	130.4	137.9	123.8	117.2	109.0	99.9	77.6	90.8	88.3	80.9	76.8
85°	86.7	85.9	77.6	68.5	62.7	54.5	48.7	49.5	54.5	56.1	56.1
87.5°	42.1	40.5	37.1	34.7	33.0	27.2	25.6	28.9	28.9	30.5	29.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	975.8	975.8	975.8	975.8	975.8
2.5°	1002.2	1003.8	1003.0	1005.5	1003.0
5°	1013.7	1013.7	1014.6	1015.4	1014.6
7.5°	1008.0	1007.1	1008.8	1010.4	1009.6
10°	997.2	998.1	999.7	1002.2	1002.2
12.5°	993.1	993.9	997.2	999.7	999.7
15°	989.8	990.6	992.3	995.6	993.1
17.5°	974.9	971.6	971.6	974.1	971.6
20°	948.5	943.6	943.6	942.7	941.9
22.5°	917.2	904.8	901.5	897.3	898.2
25°	878.4	861.8	852.8	847.8	846.2
27.5°	847.0	828.0	818.9	811.5	809.0
30°	807.4	785.9	778.5	774.3	772.7
32.5°	749.6	730.6	720.7	718.2	713.3
35°	662.1	653.8	649.7	643.9	644.7
37.5°	574.6	572.1	562.2	565.5	562.2
40°	480.5	479.6	481.3	478.8	484.6
42.5°	392.1	389.6	393.8	391.3	393.8
45°	303.8	308.7	314.5	312.0	315.4
47.5°	232.8	233.6	232.0	233.6	235.3
50°	179.1	177.5	175.8	172.5	174.2
52.5°	147.8	142.0	137.9	135.4	134.6
55°	130.4	124.7	121.4	118.1	118.1
57.5°	125.5	118.1	113.1	110.6	109.8
60°	126.3	116.4	109.8	105.7	104.8
62.5°	129.6	116.4	107.3	103.2	101.5
65°	128.8	114.7	105.7	101.5	99.9
67°	124.7	112.3	104.8	100.7	99.9
67.5°	123.0	111.4	104.8	100.7	99.1
70°	117.2	109.0	103.2	99.1	97.4
72.5°	112.3	105.7	99.1	95.8	94.1
75°	107.3	100.7	94.9	91.6	90.8
77.5°	102.4	94.9	90.8	86.7	83.4
80°	93.3	85.0	79.3	72.6	71.0
82.5°	76.8	70.2	64.4	58.6	57.8
85°	57.0	54.5	49.5	44.6	44.6
87.5°	31.4	34.7	30.5	28.1	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)