

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: P401498

Luminaire Tested: **ENT-SA1D-740-U-SLL-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401498
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-8)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-740-U-SLL-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4245 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

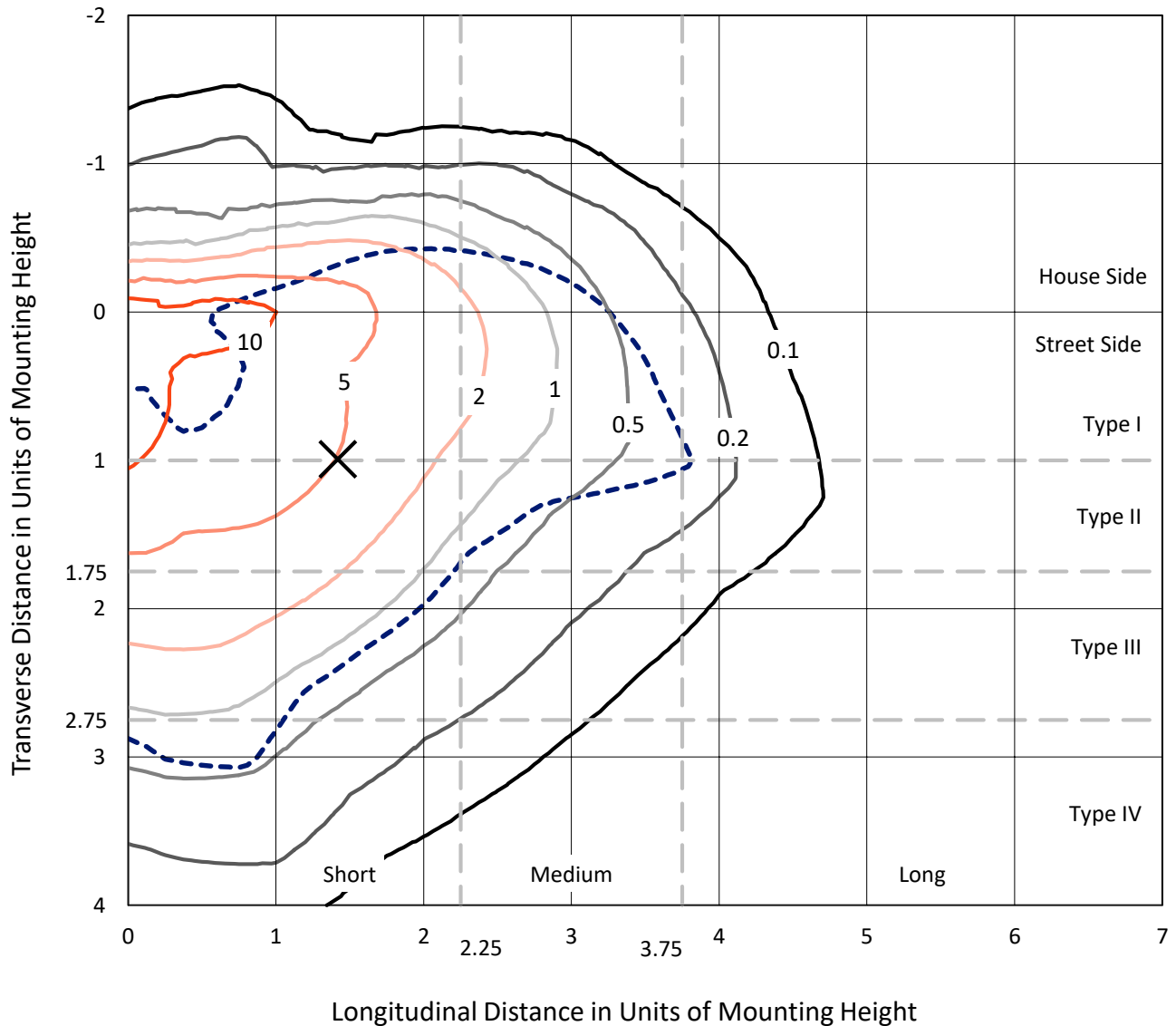
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

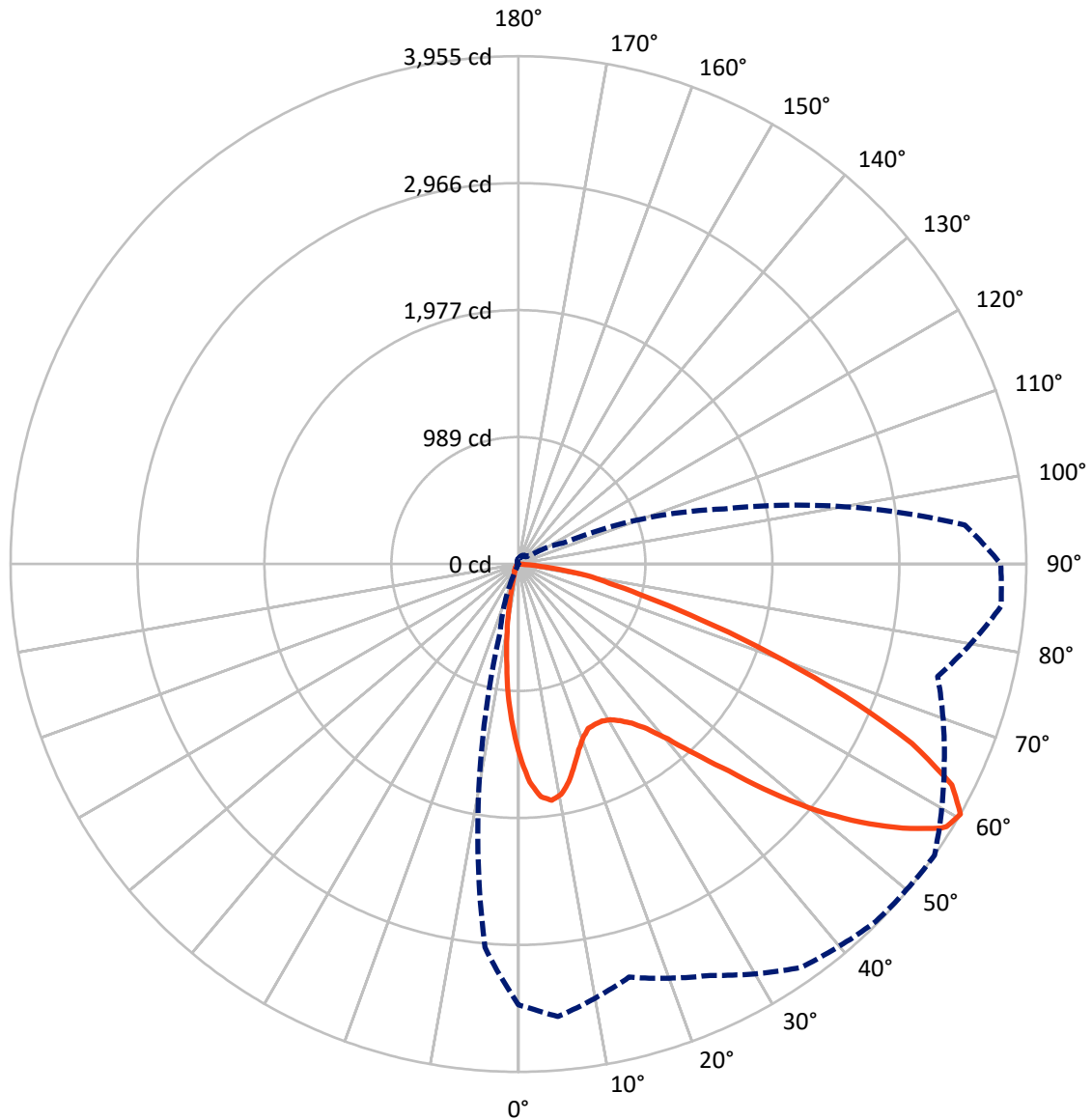
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.7 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	751.7	0.0	751.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	3493.2	0.0	3493.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	4245.0	0.0	4245.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.8	2.7
10°-20°	214.6	5.1
20°-30°	306.1	7.2
30°-40°	448.9	10.6
40°-50°	661.9	15.6
50°-60°	980.6	23.1
60°-70°	1045.0	24.6
70°-80°	433.5	10.2
80°-90°	41.7	1.0
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°	4245.0	100.0
0°-180°	4245.0	100.0



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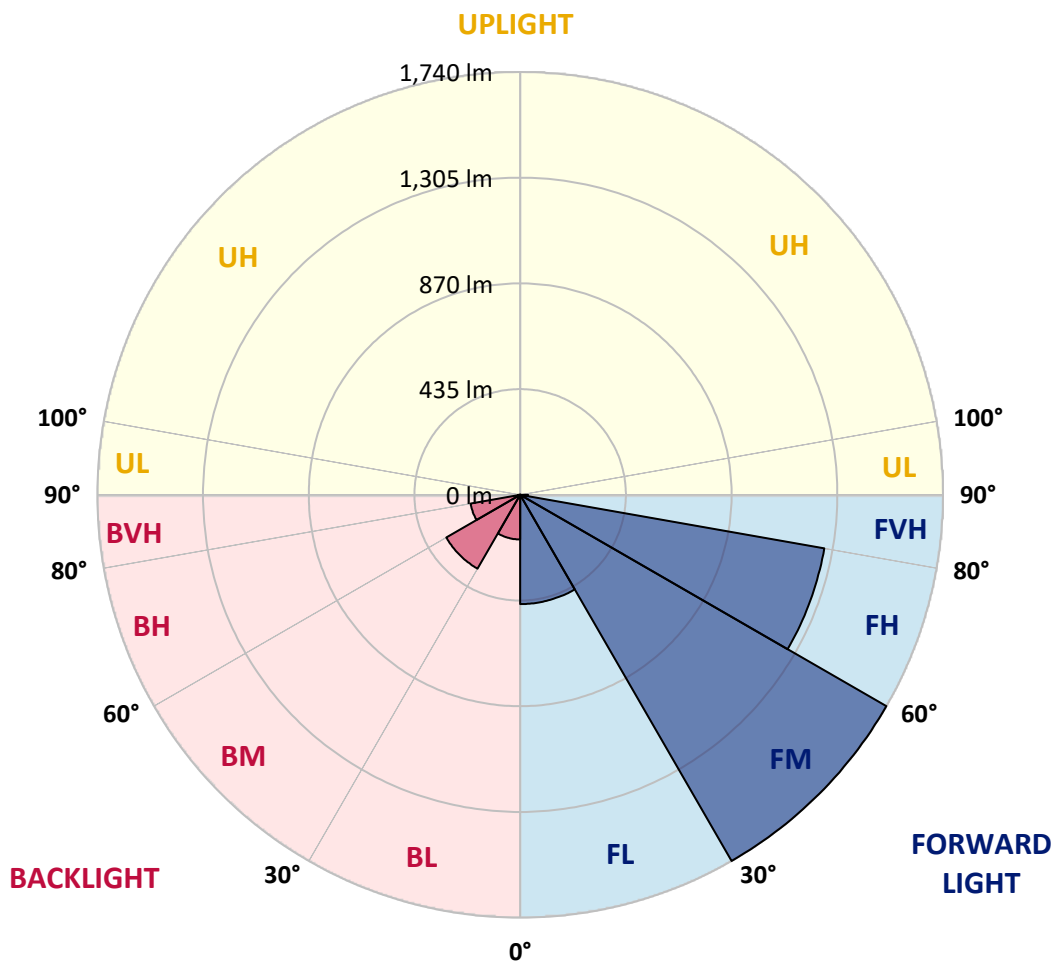
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	449.6	10.6			
FM	(30°-60°)	1740.5	41.0			
FH	(60°-80°)	1271.2	29.9			G1/1800
FVH	(80°-90°)	31.9	0.8			G1/100
BL	(0°-30°)	183.8	4.3	B1/500		
BM	(30°-60°)	351.0	8.3	B1/1000		
BH	(60°-80°)	207.2	4.9	B1/500		G1/500
BVH	(80°-90°)	9.8	0.2			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1
2.5°	1565.8	1563.3	1585.8	1632.4	1661.3	1678.9	1682.1	1700.6	1682.1	1672.5	1638.0
5°	1520.0	1519.2	1562.5	1664.5	1747.9	1810.5	1841.0	1820.2	1788.1	1724.7	1647.6
7.5°	1393.2	1393.2	1475.1	1611.5	1751.1	1859.5	1896.4	1857.9	1781.6	1654.0	1516.0
10°	1289.7	1299.3	1378.0	1540.9	1695.8	1814.5	1855.5	1825.8	1726.3	1560.9	1398.8
12.5°	1227.9	1233.5	1321.0	1484.7	1629.2	1725.5	1750.3	1741.5	1669.3	1489.5	1317.8
15°	1233.5	1241.5	1341.8	1475.9	1569.8	1608.3	1617.1	1628.4	1598.7	1460.6	1291.3
17.5°	1321.8	1327.4	1428.5	1515.2	1511.2	1499.1	1502.4	1520.8	1556.1	1484.7	1345.1
20°	1463.0	1477.5	1579.4	1581.0	1480.7	1424.5	1410.1	1440.6	1536.1	1548.1	1459.8
22.5°	1644.4	1650.0	1753.5	1691.8	1483.9	1373.1	1356.3	1390.8	1542.5	1650.8	1618.7
25°	1854.7	1874.7	1930.9	1835.4	1530.4	1365.9	1354.7	1383.6	1565.8	1760.0	1782.4
27.5°	1996.7	2012.8	2066.5	1933.3	1572.2	1369.9	1349.1	1384.4	1593.8	1862.7	1957.4
30°	2123.5	2134.8	2154.8	1984.7	1619.5	1390.0	1356.3	1406.8	1609.1	1884.4	2070.5
32.5°	2243.1	2256.7	2244.7	2046.5	1671.7	1427.7	1369.9	1454.2	1642.0	1927.7	2169.3
35°	2397.2	2398.0	2357.1	2108.3	1731.1	1472.7	1410.1	1521.6	1706.2	1995.1	2275.2
37.5°	2580.2	2581.8	2478.2	2171.7	1798.5	1548.1	1504.8	1625.9	1799.3	2073.0	2426.9
40°	2739.9	2746.3	2609.1	2244.7	1881.1	1695.0	1690.9	1791.3	1918.9	2176.5	2589.8
42.5°	2878.7	2897.2	2729.4	2305.7	1998.3	1920.5	1930.1	2021.6	2064.1	2263.2	2690.9
45°	3019.1	3018.3	2828.1	2366.7	2194.1	2211.0	2302.5	2298.5	2228.6	2309.7	2770.4
47.5°	3106.6	3102.6	2888.3	2466.2	2458.2	2619.5	2716.6	2663.6	2410.8	2359.5	2869.9
50°	3140.3	3138.7	2935.7	2593.0	2727.0	2989.5	3128.3	3022.4	2633.9	2442.9	2988.7
52.5°	3235.8	3227.8	3044.8	2737.5	2970.2	3345.8	3460.5	3342.6	2856.2	2593.0	3126.7
55°	3385.1	3387.5	3232.6	2906.8	3165.2	3597.0	3737.4	3632.3	3083.4	2799.3	3316.1
57.5°	3485.4	3492.6	3440.5	3095.4	3373.9	3772.7	3909.2	3879.5	3385.9	3045.6	3538.4
58°	3495.1	3500.7	3473.4	3131.5	3405.2	3792.8	3932.4	3911.6	3452.5	3124.3	3591.4
60°	3433.3	3450.1	3537.6	3330.5	3534.4	3835.3	3936.5	3954.9	3658.8	3379.5	3772.7
62.5°	3265.5	3271.1	3430.0	3553.6	3622.7	3730.2	3739.8	3788.0	3743.8	3678.8	3934.8
65°	3060.1	3060.1	3231.8	3564.1	3393.9	3376.3	3320.1	3368.3	3495.9	3866.6	3923.6
67.5°	2702.9	2705.4	2924.4	3174.8	2813.7	2752.7	2716.6	2734.2	3006.3	3710.1	3705.3
70°	2184.5	2182.9	2408.4	2570.5	2088.2	2036.0	2079.4	2073.8	2442.1	3296.8	3235.0
72.5°	1544.9	1558.5	1790.5	1985.5	1418.1	1222.3	1413.3	1487.1	1837.0	2779.2	2503.1
75°	870.0	888.4	1077.8	1379.6	894.8	826.6	924.5	1029.7	1328.2	2212.6	1681.3
77.5°	436.6	443.8	552.1	663.7	542.5	630.0	624.4	724.7	910.9	1492.7	961.4
80°	252.0	266.4	303.4	342.7	303.4	399.7	463.9	545.7	561.0	772.0	536.1
82.5°	101.1	113.2	142.0	161.3	126.0	118.8	81.1	255.2	337.9	373.2	205.4
85°	0.0	0.0	0.8	1.6	2.4	2.4	4.0	44.9	82.7	18.5	33.7
87.5°	0.0	0.0	0.8	0.8	1.6	2.4	3.2	5.6	7.2	8.8	30.5
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1
2.5°	1625.1	1616.3	1586.6	1541.7	1513.6	1470.3	1452.6	1411.7	1390.8	1356.3	1356.3
5°	1609.1	1573.0	1498.3	1401.2	1332.2	1260.0	1236.7	1188.6	1154.1	1113.1	1096.3
7.5°	1463.0	1412.5	1296.1	1182.9	1073.0	1000.0	927.7	878.8	832.2	798.5	803.3
10°	1329.0	1256.8	1129.2	985.5	871.6	795.3	730.3	673.3	625.2	577.8	570.6
12.5°	1241.5	1158.9	1006.4	852.3	767.2	711.0	650.9	588.3	528.9	476.7	455.8
15°	1204.6	1114.7	944.6	799.3	721.5	649.3	579.4	502.4	434.2	371.6	354.7
17.5°	1244.7	1137.2	939.0	764.0	655.7	565.0	467.9	383.6	303.4	258.4	244.8
20°	1353.9	1214.2	957.4	728.7	582.6	465.5	346.7	251.2	206.3	179.0	170.1
22.5°	1512.0	1341.8	988.7	694.2	508.8	346.7	239.2	181.4	154.9	140.4	136.4
25°	1683.7	1506.4	1046.5	665.3	435.0	257.6	177.4	148.5	132.4	122.0	118.0
27.5°	1877.1	1669.3	1117.1	643.6	366.8	206.3	152.5	130.8	118.0	110.8	107.5
30°	1998.3	1786.5	1170.9	605.1	320.2	187.8	145.3	123.6	109.9	104.3	101.9
32.5°	2109.9	1878.7	1222.3	561.0	284.9	166.1	141.2	130.0	114.0	102.7	97.9
35°	2232.7	1973.4	1247.1	534.5	261.6	144.5	116.4	101.1	92.3	90.7	88.3
37.5°	2415.6	2085.8	1263.2	520.0	247.2	131.6	108.3	91.5	81.1	71.4	67.4
40°	2589.0	2202.2	1271.2	506.4	240.0	123.6	103.5	86.7	75.4	66.6	62.6
42.5°	2724.6	2308.1	1276.0	496.8	227.1	118.8	99.5	83.5	71.4	62.6	58.6
45°	2835.4	2430.9	1272.0	493.6	216.7	122.0	97.9	81.1	68.2	59.4	55.4
47.5°	2943.7	2564.1	1287.3	489.5	206.3	117.2	98.7	80.3	65.8	57.0	53.0
50°	3085.8	2725.4	1342.6	478.3	199.0	109.9	106.7	81.1	65.0	55.4	52.2
52.5°	3269.5	2948.5	1443.0	466.3	190.2	103.5	111.6	81.1	63.4	53.8	49.8
55°	3492.6	3198.9	1553.7	448.6	175.0	95.5	106.7	81.1	61.8	53.0	48.2
57.5°	3674.8	3422.0	1641.2	427.8	146.9	85.9	97.9	77.8	57.8	49.8	45.7
58°	3690.9	3447.7	1653.2	422.1	143.7	84.3	95.5	77.0	56.2	49.0	44.9
60°	3755.9	3489.4	1658.0	391.6	119.6	80.3	82.7	74.6	53.0	45.7	42.5
62.5°	3733.4	3351.4	1556.1	337.9	106.7	73.0	69.0	76.2	49.0	41.7	38.5
65°	3621.9	3080.1	1363.5	302.6	107.5	65.0	59.4	66.6	44.9	37.7	34.5
67.5°	3356.2	2668.4	1107.5	283.3	112.4	57.8	51.4	49.8	40.1	33.7	31.3
70°	2862.7	2186.9	839.5	266.4	118.8	51.4	47.3	44.1	36.9	31.3	28.1
72.5°	2108.3	1619.5	610.7	249.6	115.6	45.7	44.1	40.1	33.7	28.1	26.5
75°	1315.4	940.6	418.1	203.8	103.5	40.1	40.9	37.7	30.5	26.5	24.1
77.5°	768.0	660.5	206.3	151.7	71.4	35.3	36.1	34.5	31.3	24.9	23.3
80°	459.9	410.9	88.3	65.0	39.3	31.3	30.5	32.1	29.7	23.3	21.7
82.5°	199.0	178.2	42.5	36.1	32.1	27.3	26.5	27.3	25.7	19.3	18.5
85°	11.2	29.7	20.1	26.5	24.1	20.1	20.1	20.9	18.5	15.2	15.2
87.5°	10.4	22.5	12.8	16.1	17.7	15.2	16.1	16.1	15.2	13.6	12.8
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1
2.5°	1337.8	1329.0	1302.5	1292.9	1251.2	1261.6	1264.8	1260.8	1262.4	1265.6	1277.6
5°	1108.3	1093.9	1059.4	1036.9	1024.8	1016.8	979.1	979.9	985.5	963.8	991.9
7.5°	787.3	803.3	806.6	785.7	772.8	745.6	711.0	691.8	658.9	677.3	681.4
10°	563.4	555.4	570.6	563.4	543.3	532.9	496.0	492.8	489.5	487.1	510.4
12.5°	429.4	405.3	387.6	391.6	376.4	350.7	344.3	345.1	348.3	348.3	354.7
15°	340.3	303.4	275.3	258.4	260.8	235.1	227.9	203.8	200.6	193.4	195.0
17.5°	238.4	223.1	206.3	187.0	179.0	155.7	127.6	114.8	105.1	106.7	111.6
20°	164.5	158.1	153.3	143.7	135.6	108.3	90.7	85.1	84.3	85.9	87.5
22.5°	132.4	126.0	121.2	118.0	107.5	87.5	77.8	73.8	73.8	73.8	74.6
25°	114.0	107.5	101.1	101.1	91.5	76.2	69.0	65.8	65.0	64.2	65.8
27.5°	105.9	97.1	90.7	86.7	79.5	67.4	61.0	57.8	57.0	57.0	57.8
30°	97.9	89.1	82.7	77.0	69.0	60.2	53.8	51.4	49.8	49.8	50.6
32.5°	93.1	84.3	76.2	69.0	60.2	53.0	47.3	44.1	42.5	43.3	44.1
35°	82.7	75.4	68.2	61.0	53.0	46.5	40.9	37.7	36.9	36.9	37.7
37.5°	65.0	59.4	57.8	53.8	46.5	40.1	34.5	31.3	30.5	30.5	31.3
40°	58.6	51.4	48.2	46.5	42.5	34.5	28.1	24.9	24.9	24.1	25.7
42.5°	53.8	46.5	40.9	39.3	36.9	29.7	22.5	20.1	19.3	19.3	20.1
45°	50.6	42.5	35.3	31.3	31.3	24.1	18.5	15.2	14.4	14.4	15.2
47.5°	49.0	40.1	31.3	25.7	24.9	20.1	14.4	11.2	10.4	10.4	10.4
50°	47.3	36.9	28.1	21.7	19.3	16.9	11.2	8.8	8.0	8.0	8.0
52.5°	44.9	35.3	25.7	19.3	15.2	12.8	8.8	6.4	5.6	4.8	5.6
55°	43.3	32.9	24.9	17.7	12.8	9.6	6.4	4.8	4.0	4.0	4.0
57.5°	40.9	30.5	22.5	16.9	12.0	7.2	4.8	3.2	2.4	2.4	3.2
58°	40.1	30.5	21.7	16.1	11.2	7.2	4.8	3.2	2.4	2.4	3.2
60°	37.7	28.1	20.9	14.4	10.4	6.4	4.0	2.4	1.6	1.6	2.4
62.5°	35.3	25.7	18.5	12.8	8.8	5.6	3.2	1.6	0.8	0.8	0.8
65°	31.3	23.3	16.1	12.0	7.2	4.0	2.4	0.8	0.0	0.0	0.0
67.5°	28.1	21.7	14.4	10.4	6.4	3.2	1.6	0.0	0.0	0.0	0.0
70°	25.7	20.1	12.8	8.8	5.6	2.4	0.8	0.0	0.0	0.0	0.0
72.5°	24.1	18.5	12.0	8.0	4.0	2.4	0.8	0.0	0.0	0.0	0.0
75°	23.3	17.7	12.0	7.2	4.0	2.4	1.6	0.8	0.0	0.0	0.8
77.5°	22.5	17.7	12.0	7.2	4.8	2.4	2.4	1.6	1.6	0.8	2.4
80°	20.9	16.1	10.4	6.4	4.0	3.2	2.4	1.6	0.0	0.0	0.0
82.5°	17.7	12.8	8.8	6.4	4.0	2.4	0.8	0.0	0.0	0.0	0.0
85°	14.4	10.4	7.2	4.0	2.4	0.8	0.0	0.0	0.0	0.0	0.0
87.5°	12.8	8.0	5.6	3.2	1.6	0.8	0.0	0.0	0.0	0.0	0.0
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1	1499.1
2.5°	1288.1	1325.0	1340.2	1391.6	1414.1	1460.6	1500.7	1535.3	1552.1	1565.8
5°	999.2	1034.5	1072.2	1148.4	1214.2	1284.9	1373.1	1464.6	1491.1	1520.0
7.5°	697.4	749.6	813.0	881.2	975.1	1081.8	1208.6	1321.8	1378.8	1393.2
10°	541.7	603.5	670.9	738.3	816.2	930.1	1057.7	1203.8	1264.8	1289.7
12.5°	406.9	489.5	569.8	649.3	716.7	815.4	954.2	1128.4	1195.8	1227.9
15°	244.8	337.9	436.6	543.3	637.2	752.8	909.3	1112.3	1197.4	1233.5
17.5°	122.0	166.9	257.6	418.1	557.0	700.6	908.5	1170.1	1275.2	1321.8
20°	90.7	102.7	137.2	260.8	463.1	657.3	918.1	1268.8	1423.7	1463.0
22.5°	77.8	86.7	98.7	152.5	346.7	617.2	951.8	1399.6	1592.2	1644.4
25°	68.2	75.4	85.1	105.1	237.6	569.8	1015.2	1584.2	1783.2	1854.7
27.5°	60.2	66.6	74.6	88.3	158.9	480.7	1051.3	1739.1	1937.3	1996.7
30°	53.0	57.8	65.8	75.4	117.2	371.6	1085.0	1875.5	2077.0	2123.5
32.5°	46.5	50.6	57.0	64.2	89.1	281.7	1086.6	1992.7	2199.0	2243.1
35°	39.3	44.1	49.0	55.4	70.6	219.9	1053.7	2109.1	2343.4	2397.2
37.5°	32.9	36.9	42.5	48.2	64.2	170.1	985.5	2245.5	2519.2	2580.2
40°	28.1	32.1	36.9	43.3	57.0	123.6	876.4	2369.1	2683.7	2739.9
42.5°	22.5	26.5	32.1	42.5	47.3	89.1	766.4	2487.9	2826.5	2878.7
45°	17.7	22.5	29.7	40.9	39.3	62.6	671.7	2593.0	2949.3	3019.1
47.5°	12.8	18.5	29.7	36.9	32.1	44.9	623.6	2694.1	3059.3	3106.6
50°	9.6	15.2	32.1	31.3	27.3	38.5	630.8	2806.5	3109.8	3140.3
52.5°	7.2	12.8	24.9	22.5	23.3	33.7	658.9	2954.9	3214.2	3235.8
55°	6.4	9.6	15.2	16.9	20.9	32.1	651.7	3095.4	3347.4	3385.1
57.5°	5.6	8.0	12.0	13.6	18.5	30.5	610.7	3157.2	3433.3	3485.4
58°	4.8	8.0	11.2	13.6	18.5	29.7	600.3	3140.3	3429.2	3495.1
60°	4.0	7.2	10.4	12.0	16.1	26.5	549.7	2997.5	3341.0	3433.3
62.5°	3.2	4.8	8.0	8.8	12.8	21.7	452.6	2766.3	3151.6	3265.5
65°	1.6	3.2	4.8	6.4	8.8	16.1	321.8	2492.7	2948.5	3060.1
67.5°	0.0	1.6	3.2	4.0	5.6	12.0	185.4	2115.5	2614.7	2702.9
70°	0.0	0.8	1.6	2.4	3.2	8.0	97.9	1552.9	2025.6	2184.5
72.5°	0.8	0.8	0.8	0.0	1.6	6.4	43.3	921.3	1381.2	1544.9
75°	0.8	0.8	0.0	0.0	0.0	3.2	18.5	485.5	792.1	870.0
77.5°	3.2	1.6	0.0	0.0	0.0	0.8	8.8	261.6	410.9	436.6
80°	0.8	0.0	0.0	0.0	0.0	0.0	3.2	87.5	246.4	252.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	105.9	101.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)