

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: LUMARK

Report Number: P270554

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270554
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T4FT-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14075.4 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 129
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

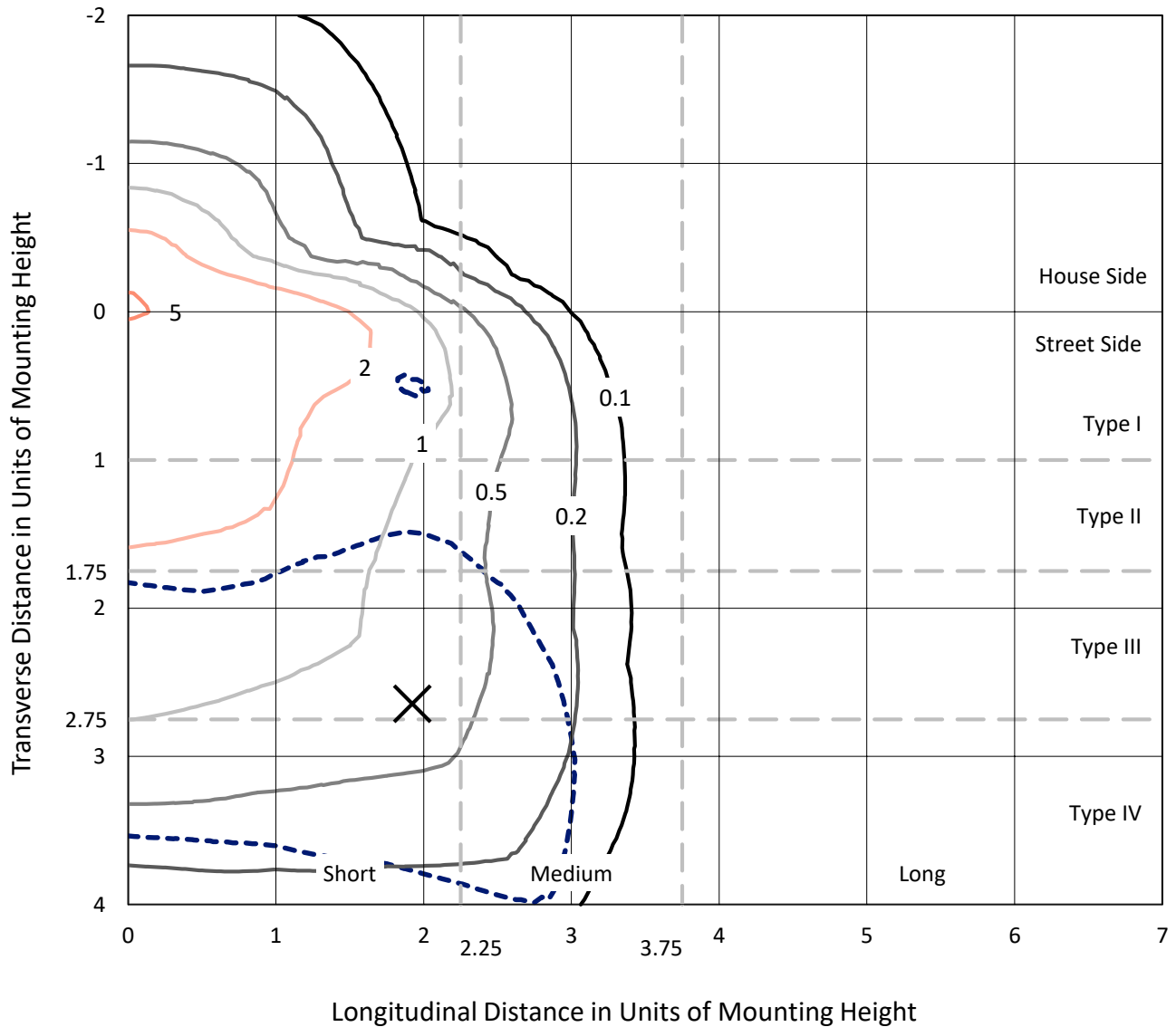


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Iso-Footcandle Lines of Horizontal Illumination

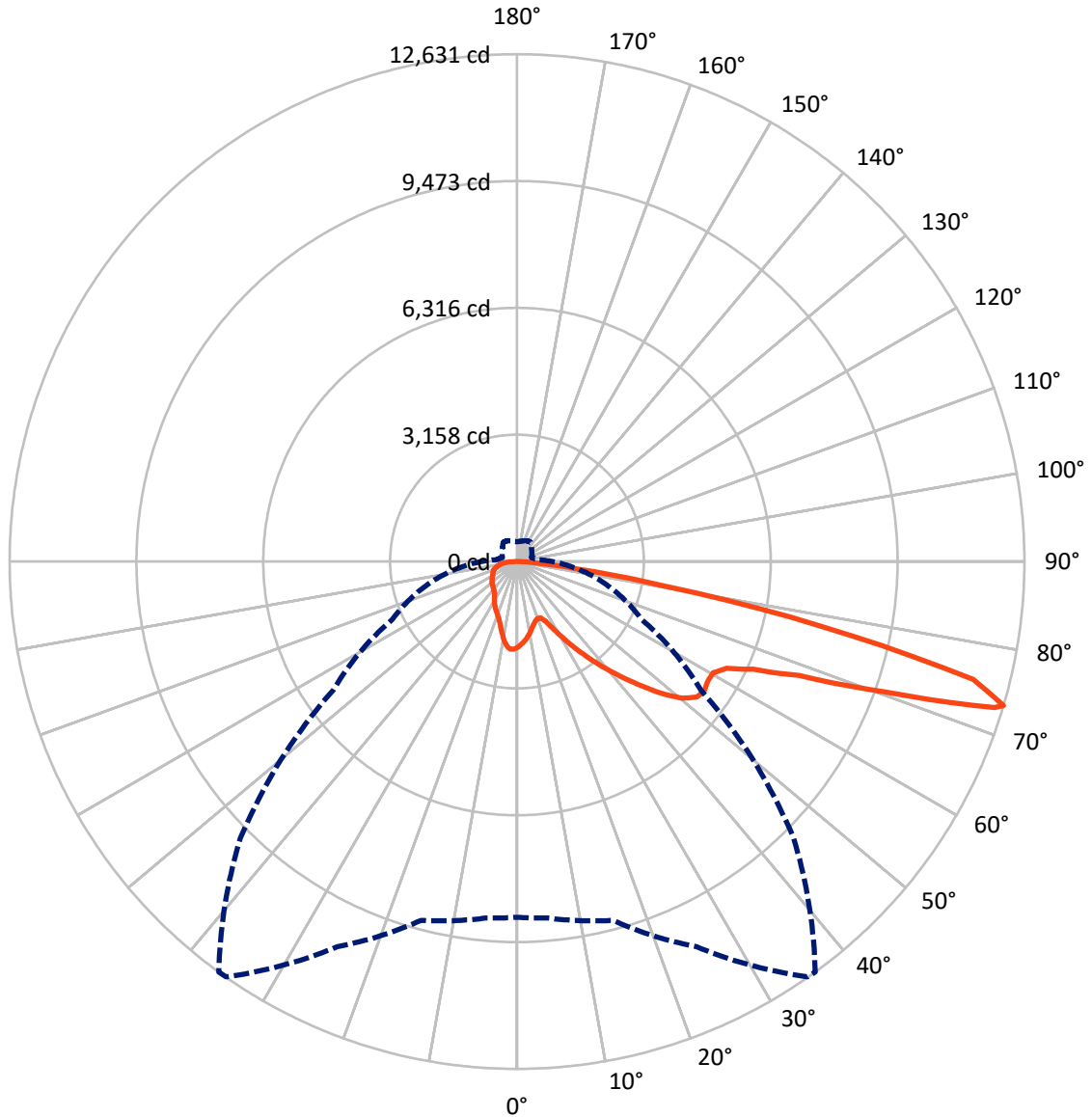
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2714.2	0.0	2714.2
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	11361.3	0.0	11361.3
	% Fixture	80.7	0.0	80.7
Total	Lumens	14075.4	0.0	14075.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	1.4
10°-20°	486.4	3.5
20°-30°	779.8	5.5
30°-40°	1289.8	9.2
40°-50°	1995.8	14.2
50°-60°	2671.8	19.0
60°-70°	3490.2	24.8
70°-80°	2850.9	20.3
80°-90°	317.3	2.3
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°	14075.4	100.0
0°-180°	14075.4	100.0



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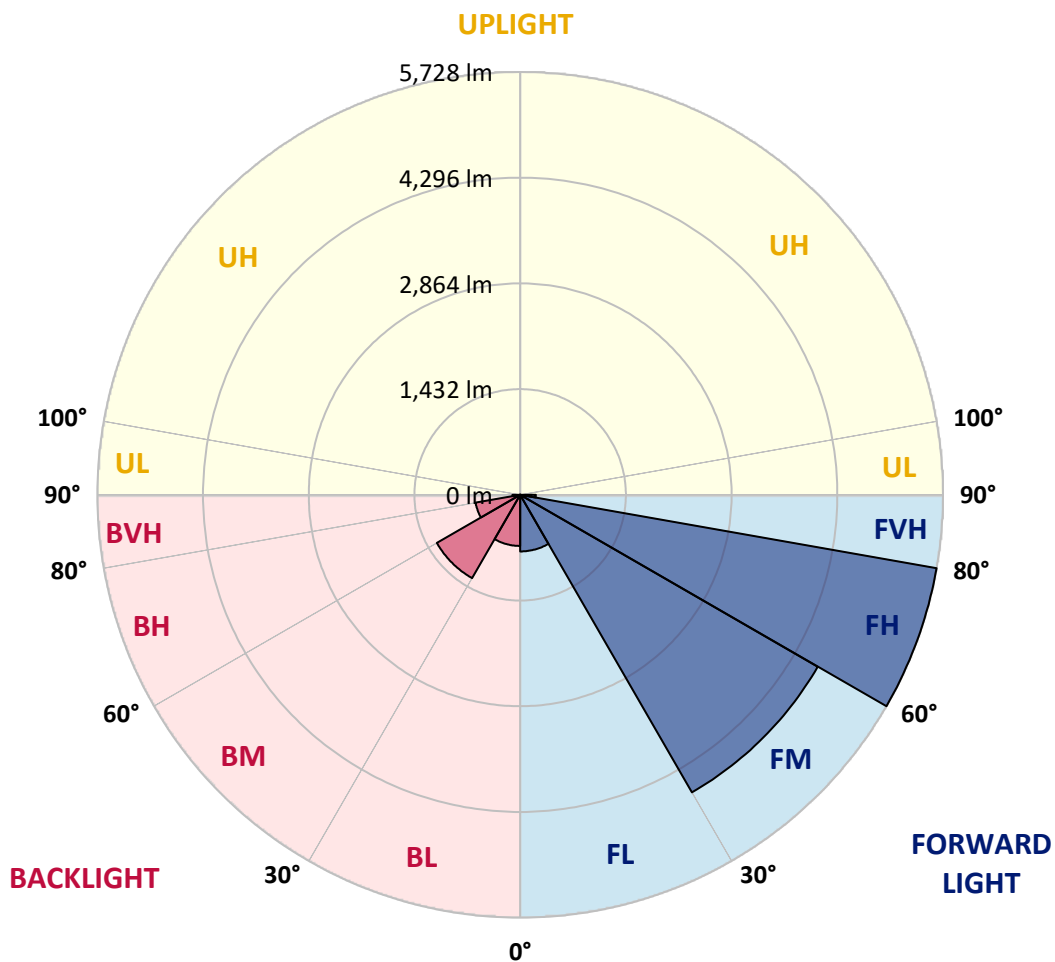
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	766.9	5.4			
FM (30°-60°)	4653.8	33.1			
FH (60°-80°)	5727.7	40.7			G3/7500
FVH (80°-90°)	212.8	1.5			G2/225
BL (0°-30°)	692.8	4.9	B2/1000		
BM (30°-60°)	1303.5	9.3	B2/2500		
BH (60°-80°)	613.4	4.4	B2/1000		G2/1000
BVH (80°-90°)	104.5	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9
2.5°	2050.7	2056.0	2056.8	2063.1	2063.1	2062.2	2064.9	2075.7	2081.1	2093.6	2104.3
5°	1949.6	1955.8	1958.6	1969.3	1982.6	1983.5	1993.3	2014.0	2033.7	2061.4	2084.6
7.5°	1836.0	1843.1	1850.2	1872.6	1892.3	1894.2	1912.9	1946.0	1971.9	2005.9	2048.0
10°	1726.1	1727.8	1734.9	1763.6	1789.6	1792.2	1819.0	1856.5	1891.4	1938.8	1986.2
12.5°	1635.6	1641.1	1639.2	1660.7	1683.1	1685.0	1720.7	1768.0	1819.0	1872.6	1929.0
15°	1604.5	1603.5	1584.7	1583.8	1593.7	1595.4	1630.3	1685.8	1743.0	1809.1	1881.6
17.5°	1625.8	1618.7	1569.5	1539.1	1532.9	1534.7	1560.5	1621.4	1682.2	1758.3	1844.9
20°	1743.9	1716.1	1600.8	1527.5	1506.8	1506.8	1522.1	1571.2	1638.4	1726.9	1836.0
22.5°	2023.8	1980.9	1734.9	1604.5	1531.9	1524.9	1513.1	1550.7	1624.9	1731.4	1872.6
25°	2376.1	2355.5	1980.9	1809.1	1659.8	1636.6	1559.6	1573.1	1652.7	1779.6	1972.9
27.5°	2702.6	2666.8	2303.8	2107.0	1896.0	1860.1	1697.3	1642.8	1718.8	1869.2	2117.8
30°	2893.1	2868.9	2635.4	2447.7	2196.4	2150.8	1917.4	1780.6	1836.9	2016.7	2323.3
32.5°	3100.5	3086.2	2968.2	2797.4	2521.9	2469.3	2201.7	2005.0	2017.6	2212.5	2571.0
35°	3301.8	3320.6	3253.5	3128.3	2872.5	2823.4	2583.6	2298.4	2240.3	2432.5	2835.8
37.5°	3543.3	3547.6	3505.6	3424.2	3240.9	3200.8	3003.0	2611.4	2482.6	2666.8	3091.5
40°	4025.2	3954.6	3790.0	3725.7	3616.5	3591.6	3366.2	2898.4	2707.9	2907.4	3333.2
42.5°	4546.6	4436.5	4179.1	4073.5	4029.7	4006.5	3668.4	3089.8	2919.0	3147.9	3570.0
45°	4967.0	4877.5	4625.4	4494.8	4500.1	4462.6	3932.2	3260.6	3147.9	3389.5	3834.8
47.5°	5380.9	5231.6	4949.0	4930.3	4992.9	4937.4	4184.5	3431.4	3386.7	3652.2	4099.4
50°	5407.8	5272.0	5157.4	5307.6	5415.1	5346.2	4413.5	3655.1	3634.5	3970.7	4441.1
52.5°	5081.4	5061.8	5236.1	5489.3	5667.1	5605.6	4600.3	3884.9	3887.5	4368.6	4857.0
55°	4962.4	4937.4	5146.7	5457.9	5698.5	5661.8	4739.7	4144.2	4168.3	4851.6	5303.2
57.5°	5162.7	5100.1	5141.4	5399.0	5625.1	5603.6	4884.7	4432.1	4476.0	5407.8	5715.5
60°	5784.4	5656.4	5438.2	5486.6	5627.8	5615.3	5092.1	4753.2	4826.6	5987.4	5976.7
62.5°	6715.3	6570.5	6126.0	5911.3	5880.0	5856.0	5434.7	5147.6	5184.3	6406.0	5824.6
65°	7736.7	7580.9	7052.5	6700.9	6516.8	6464.9	5987.4	5623.4	5393.6	6404.9	5232.5
67.5°	8883.1	8718.6	8191.9	7856.4	7657.1	7568.5	6884.3	6008.0	5325.6	5863.1	4187.1
70°	10057.3	9900.8	9659.4	9776.6	9864.2	9729.2	8297.4	6135.9	4837.4	4596.6	2811.7
72.5°	9434.0	9421.5	9604.8	10715.5	12404.9	12431.7	9708.5	5774.6	3737.3	2732.0	1498.8
73°	8855.4	8908.1	9248.1	10577.0	12622.2	12631.2	9736.3	5587.5	3431.4	2353.7	1316.5
75°	4587.7	4945.4	6206.5	8576.4	11687.7	11729.7	8582.6	4230.1	2045.4	1307.5	887.2
77.5°	1228.8	1212.7	1999.6	4178.1	7792.1	7736.7	5423.1	2048.0	980.1	820.1	622.4
80°	421.2	426.5	680.6	1528.3	3637.1	3766.9	2353.7	893.5	644.9	571.4	440.9
82.5°	214.7	221.8	355.9	650.2	1521.2	1489.0	757.5	525.9	431.9	346.9	246.9
85°	114.4	118.0	195.8	337.1	558.0	564.3	266.4	280.8	274.5	196.8	121.6
87.5°	56.4	58.1	94.0	148.5	206.6	199.5	93.1	121.6	135.0	110.9	67.1
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°	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9	2131.9
2.5°	2117.8	2117.8	2129.3	2149.0	2163.3	2176.8	2185.7	2199.9	2208.0	2207.1	2206.2
5°	2103.4	2112.4	2135.6	2159.7	2175.9	2186.6	2186.6	2192.9	2192.9	2190.2	2186.6
7.5°	2070.4	2085.5	2119.6	2141.0	2145.4	2133.8	2110.6	2092.7	2070.4	2058.6	2054.2
10°	2017.6	2037.3	2080.1	2089.9	2066.7	2025.6	1969.3	1920.9	1878.0	1858.4	1852.0
12.5°	1965.8	1991.6	2031.8	2016.7	1961.2	1880.7	1793.9	1727.8	1679.6	1660.7	1654.5
15°	1922.7	1954.1	1985.3	1938.0	1841.3	1729.5	1633.8	1572.2	1535.6	1521.2	1517.6
17.5°	1894.2	1930.7	1941.5	1853.1	1718.8	1593.7	1508.8	1468.5	1452.4	1446.1	1444.2
20°	1896.0	1937.0	1911.1	1770.6	1600.8	1474.7	1418.3	1406.7	1406.7	1406.7	1405.8
22.5°	1945.1	1980.9	1898.6	1693.8	1487.2	1374.5	1350.4	1360.3	1367.4	1367.4	1366.5
25°	2047.1	2066.7	1907.6	1619.6	1380.9	1287.8	1288.7	1307.5	1313.7	1313.7	1312.0
27.5°	2202.6	2186.6	1923.6	1537.3	1276.1	1209.1	1221.7	1238.7	1243.1	1240.4	1239.5
30°	2397.7	2333.3	1937.0	1440.7	1177.8	1135.7	1146.4	1156.4	1152.7	1146.4	1145.6
32.5°	2615.9	2482.6	1929.0	1332.5	1091.0	1059.7	1066.0	1071.4	1066.0	1050.7	1050.7
35°	2832.3	2617.7	1885.3	1214.5	1022.2	986.3	985.5	1002.5	1001.6	983.7	984.6
37.5°	3021.9	2724.0	1800.3	1106.3	963.2	932.8	936.4	947.1	952.5	928.3	925.7
40°	3187.2	2797.4	1680.4	1014.1	915.7	917.6	907.6	890.7	884.6	873.7	872.0
42.5°	3343.0	2848.3	1553.3	937.2	891.6	912.1	879.1	838.8	821.9	831.7	837.9
45°	3495.8	2905.6	1430.9	873.7	861.2	896.1	850.4	805.8	786.0	790.6	796.8
47.5°	3682.7	2985.2	1283.3	805.8	814.8	866.5	832.5	784.3	754.8	736.9	731.5
50°	3928.6	3100.5	1091.9	732.5	765.5	834.3	817.4	753.0	720.8	685.0	676.1
52.5°	4236.2	3209.6	898.8	673.4	725.3	806.7	792.3	726.2	686.8	643.8	636.8
55°	4543.1	3224.8	732.5	622.4	679.7	769.0	761.9	704.7	649.3	614.4	607.3
57.5°	4757.8	3080.8	620.6	579.4	635.8	722.5	734.3	678.8	617.9	591.2	586.7
60°	4761.2	2736.5	552.6	550.9	602.8	682.4	705.6	648.3	598.4	580.5	576.8
62.5°	4383.0	2205.3	508.9	529.5	578.6	649.3	684.1	631.4	593.8	586.7	583.1
65°	3673.8	1629.4	473.9	509.8	556.3	621.5	666.3	625.9	592.1	589.4	586.7
67.5°	2712.4	1117.0	444.5	484.7	531.2	592.9	649.3	617.9	581.4	592.1	588.5
70°	1706.3	745.9	416.8	456.1	498.1	559.9	626.8	603.7	567.9	561.6	550.0
72.5°	963.2	539.3	383.7	419.4	455.3	515.9	596.6	579.4	537.5	512.5	500.9
73°	870.2	510.6	375.6	410.4	445.4	507.1	589.4	572.4	528.6	500.9	490.0
75°	636.8	417.6	338.9	373.9	404.2	466.0	555.3	536.6	489.1	456.1	449.0
77.5°	461.5	322.0	291.5	322.9	349.7	408.6	504.4	482.8	436.4	418.5	411.3
80°	332.7	244.2	241.5	271.8	295.2	355.0	449.8	427.5	382.8	435.5	423.9
82.5°	198.5	156.6	177.1	211.0	235.1	297.8	390.9	364.9	322.0	325.5	277.2
85°	94.9	88.6	110.0	138.6	155.5	203.8	325.5	305.0	257.5	211.0	206.6
87.5°	42.0	40.2	52.8	61.8	83.2	122.4	222.7	197.6	186.8	111.7	87.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)