

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: P270638

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270638
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-T4W-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17009.1 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 162
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

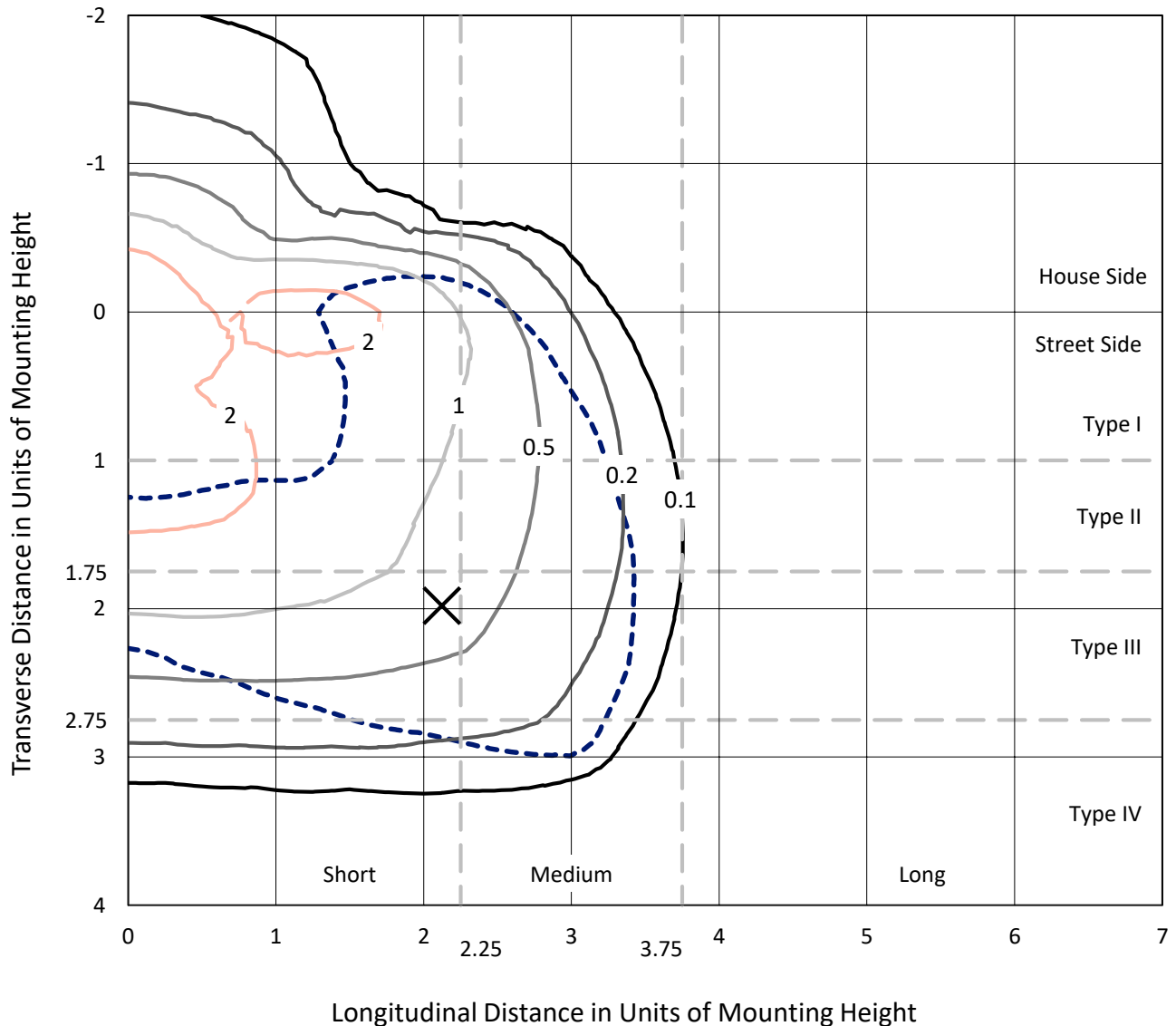


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Iso-Footcandle Lines of Horizontal Illumination

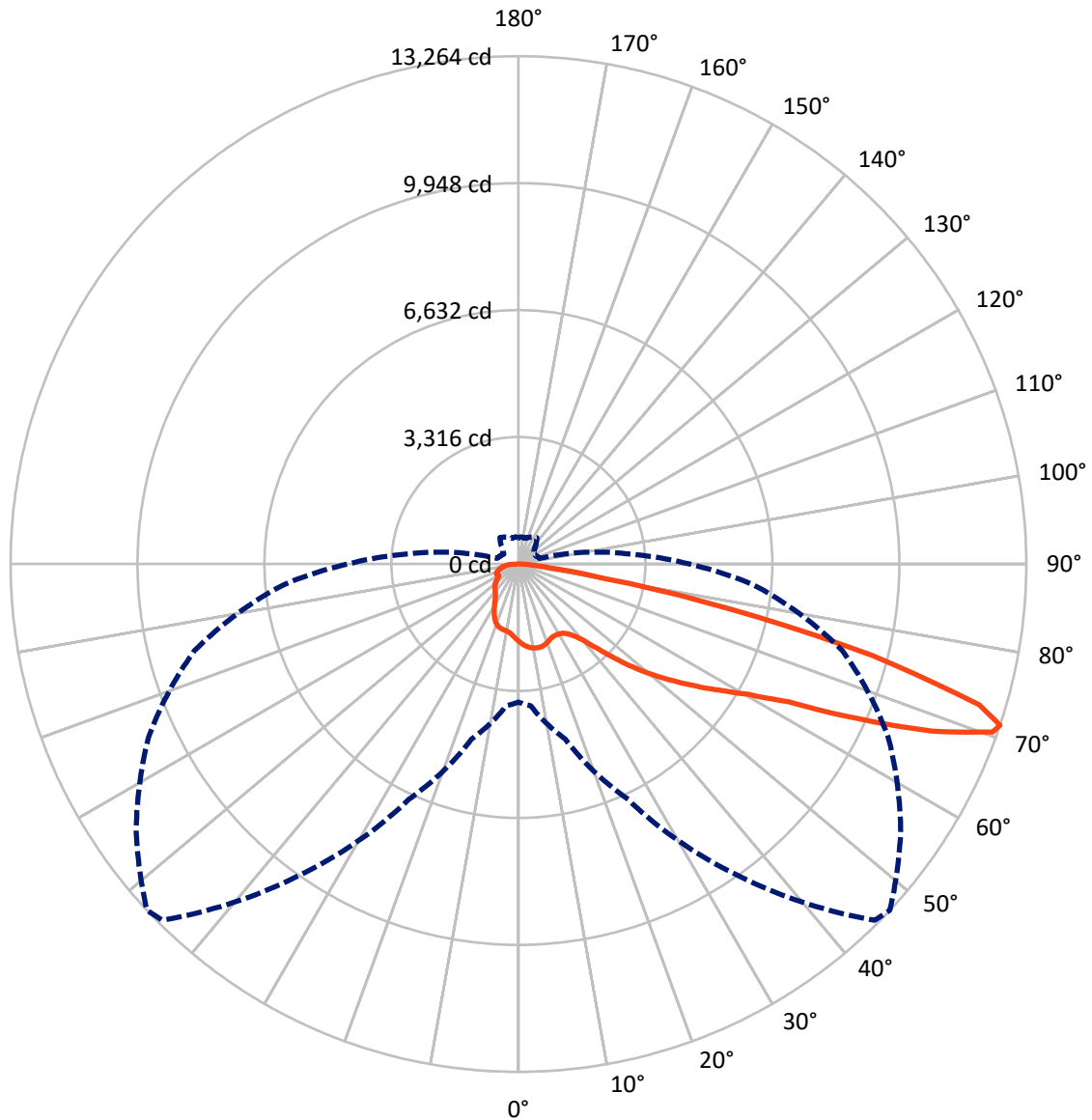
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3645.3	0.0	3645.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	13363.8	0.0	13363.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	17009.1	0.0	17009.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.1	1.1
10°-20°	565.0	3.3
20°-30°	839.6	4.9
30°-40°	1205.5	7.1
40°-50°	2137.4	12.6
50°-60°	3657.3	21.5
60°-70°	5192.2	30.5
70°-80°	2843.7	16.7
80°-90°	375.4	2.2
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°	17009.1	100.0
0°-180°	17009.1	100.0



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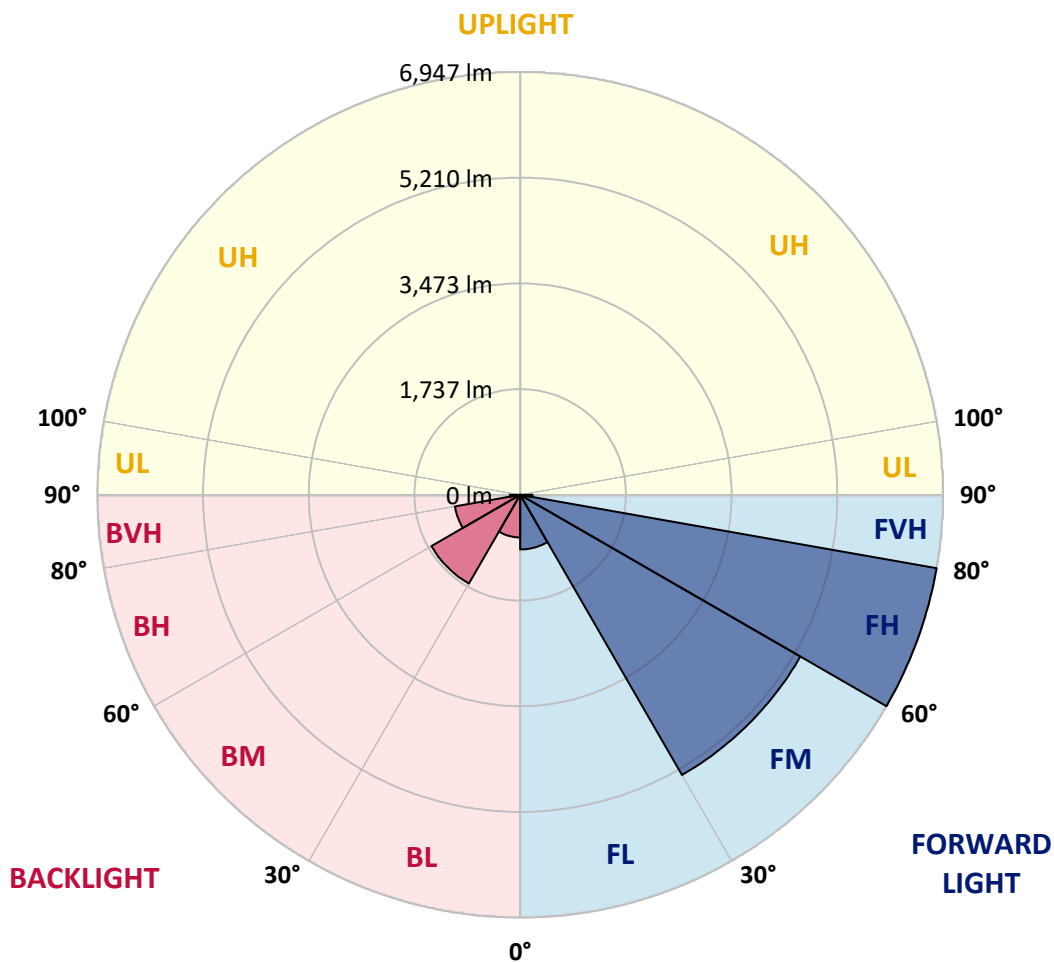
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	897.7	5.3			
FM (30°-60°)	5315.8	31.3			
FH (60°-80°)	6946.7	40.8			G3/7500
FVH (80°-90°)	203.6	1.2			G2/225
BL (0°-30°)	700.0	4.1	B2/1000		
BM (30°-60°)	1684.3	9.9	B2/2500		
BH (60°-80°)	1089.2	6.4	B3/2500		G3/2500
BVH (80°-90°)	171.8	1.0			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7
2.5°	2146.1	2141.6	2144.0	2136.2	2117.5	2097.6	2097.6	2076.7	2054.7	2032.5	2008.3
5°	2279.4	2272.9	2267.3	2243.1	2206.7	2166.0	2159.3	2117.5	2072.3	2027.0	1983.0
7.5°	2390.7	2384.2	2367.7	2323.6	2270.6	2210.0	2202.4	2147.2	2087.8	2024.9	1963.2
10°	2470.2	2465.8	2433.8	2377.6	2315.9	2244.2	2231.0	2174.7	2104.2	2025.9	1947.7
12.5°	2514.3	2507.7	2469.1	2403.0	2330.3	2257.4	2244.2	2190.2	2109.7	2023.8	1932.3
15°	2496.6	2493.3	2457.0	2389.8	2317.0	2254.1	2243.1	2188.0	2106.4	2016.1	1917.9
17.5°	2421.7	2429.3	2400.7	2334.7	2275.0	2231.0	2218.9	2167.0	2089.8	1997.3	1896.0
20°	2318.0	2326.9	2312.5	2245.4	2211.2	2182.5	2175.9	2134.1	2062.4	1969.8	1869.5
22.5°	2207.9	2215.6	2216.7	2153.9	2142.7	2131.8	2126.3	2096.6	2038.2	1953.3	1851.9
25°	2131.8	2140.7	2142.7	2087.8	2094.3	2097.6	2096.6	2075.5	2033.8	1953.3	1854.0
27.5°	2111.9	2116.3	2114.2	2063.4	2075.5	2094.3	2095.3	2091.1	2051.3	1975.3	1884.9
30°	2180.2	2182.5	2154.9	2078.9	2091.1	2115.2	2116.3	2114.2	2088.7	2032.5	1954.4
32.5°	2475.6	2473.6	2378.7	2182.5	2140.7	2149.5	2152.7	2172.6	2174.7	2127.4	2054.7
35°	2925.4	2924.3	2814.1	2479.1	2281.7	2235.4	2239.8	2270.6	2298.3	2266.2	2224.4
37.5°	3420.3	3423.6	3356.3	2902.2	2586.0	2393.1	2388.7	2411.8	2461.4	2472.3	2478.0
40°	3969.3	3985.8	3982.5	3388.3	3012.5	2661.9	2617.9	2591.4	2687.3	2747.9	2826.2
42.5°	4596.4	4592.0	4594.2	3921.9	3499.6	3085.3	3003.8	2880.2	2991.5	3096.3	3268.3
45°	5135.5	5153.0	5166.3	4489.5	4045.3	3569.1	3486.5	3261.7	3361.9	3518.4	3780.7
47.5°	5677.7	5646.9	5671.2	5121.1	4652.7	4121.3	4014.4	3711.3	3805.0	4025.5	4424.5
50°	6309.3	6295.1	6184.8	5945.6	5386.7	4681.3	4541.3	4180.9	4317.7	4611.9	5219.2
52.5°	6875.9	6798.8	6712.9	6593.7	6108.7	5247.9	5070.5	4669.2	4920.6	5285.4	6205.9
55°	7083.1	7031.4	7135.0	7289.2	6872.7	5825.5	5627.2	5239.1	5600.7	6055.8	7366.6
57.5°	7303.6	7321.2	7554.9	7866.8	7595.8	6441.7	6226.7	5913.7	6346.9	6917.8	8663.9
60°	7413.8	7484.4	7950.7	8536.0	8283.5	7117.4	6911.2	6688.6	7174.7	7870.2	9957.9
62.5°	7432.5	7527.3	8187.6	8770.7	9230.4	8152.4	7914.2	7673.0	8208.6	8922.9	10894.9
65°	7088.6	7234.2	8166.8	9059.5	10093.4	9881.9	9730.8	9309.8	9593.0	9849.8	11054.6
67.5°	6077.9	6236.7	7358.7	8940.6	10785.7	11676.3	11647.7	11025.9	10662.3	10208.1	9869.7
70°	4461.0	4588.7	5666.8	7643.0	10483.7	13085.0	13135.7	12138.2	10960.9	9447.6	7339.0
71°	3607.8	3717.9	4734.2	6785.5	9895.1	13157.7	13263.7	12187.8	10650.1	8760.8	6144.0
72.5°	2245.4	2307.0	3143.7	5121.1	8520.6	12408.3	12586.8	11552.9	9671.3	7405.1	4342.9
75°	847.6	871.9	1166.2	2258.6	5085.8	9321.9	9537.9	8731.0	6794.4	4227.2	1817.6
77.5°	455.3	467.4	578.7	939.2	2038.2	5343.7	5621.6	4980.1	3259.4	1479.2	742.9
80°	305.3	313.1	400.1	556.6	936.9	2034.8	2266.2	1999.4	1220.2	844.3	529.1
82.5°	197.3	201.7	272.2	366.0	605.2	715.4	816.7	853.2	761.7	605.2	319.6
85°	130.1	133.4	179.8	233.6	374.8	352.8	361.6	472.9	519.2	399.0	163.1
87.5°	75.0	77.2	108.1	120.2	168.6	132.3	143.3	224.8	308.7	260.1	93.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7	2022.7
2.5°	1997.3	1988.5	1968.6	1956.5	1950.9	1948.9	1946.5	1950.9	1950.9	1948.9	1944.4
5°	1960.9	1944.4	1911.4	1888.1	1876.1	1872.7	1877.2	1882.7	1886.0	1886.0	1882.7
7.5°	1934.5	1910.2	1866.1	1834.2	1815.5	1809.9	1822.0	1841.9	1855.1	1861.7	1862.8
10°	1912.4	1879.3	1830.8	1797.8	1782.3	1780.3	1795.6	1821.0	1848.5	1860.6	1862.8
12.5°	1892.5	1855.1	1802.2	1771.4	1760.3	1765.9	1786.8	1809.9	1841.9	1859.5	1860.6
15°	1873.9	1835.2	1779.1	1747.2	1744.9	1753.8	1773.6	1792.3	1816.6	1838.7	1838.7
17.5°	1851.9	1809.9	1751.5	1721.7	1721.7	1729.4	1742.7	1752.7	1768.0	1789.0	1787.8
20°	1825.4	1782.3	1722.9	1692.0	1685.4	1681.0	1681.0	1683.2	1696.4	1715.1	1718.5
22.5°	1805.6	1761.4	1698.5	1661.1	1631.3	1602.7	1590.5	1586.1	1598.3	1616.0	1620.4
25°	1805.6	1761.4	1690.9	1628.1	1555.2	1500.2	1477.1	1470.4	1482.6	1499.1	1505.6
27.5°	1835.2	1791.2	1708.5	1598.3	1465.0	1376.7	1349.2	1343.7	1354.6	1367.8	1374.5
30°	1904.8	1861.7	1759.2	1564.0	1364.6	1248.9	1218.0	1212.5	1218.0	1223.5	1231.2
32.5°	2020.5	1984.0	1841.9	1533.2	1263.1	1133.1	1095.7	1086.8	1089.0	1090.2	1096.8
35°	2208.9	2192.5	1952.1	1496.8	1167.3	1038.4	999.8	982.1	980.9	986.5	994.2
37.5°	2497.7	2507.7	2094.3	1443.9	1087.9	971.1	932.5	914.8	906.1	917.1	926.0
40°	2905.6	2928.7	2258.6	1372.3	1022.9	931.5	890.6	874.1	862.0	858.7	863.1
42.5°	3435.7	3429.2	2426.1	1280.9	952.4	905.0	862.0	844.3	824.6	799.1	793.7
45°	4064.0	3969.3	2566.1	1168.4	871.9	879.6	835.6	811.3	780.4	742.9	738.5
47.5°	4805.9	4544.6	2652.1	1048.2	796.9	846.6	805.8	768.3	723.0	698.8	695.6
50°	5699.8	5218.2	2712.7	926.0	729.8	804.6	763.9	714.2	670.1	663.6	662.5
52.5°	6757.9	6012.9	2787.6	815.8	676.9	750.7	722.0	671.3	636.0	639.4	639.4
55°	7883.4	6835.2	2789.9	728.5	630.5	687.8	691.2	650.4	622.7	633.8	637.1
57.5°	8909.6	7553.8	2570.5	666.9	586.5	638.2	681.3	658.1	637.1	675.6	678.9
60°	9804.7	8107.3	2098.7	616.1	550.0	619.6	703.3	705.4	701.0	805.8	813.4
62.5°	10132.1	8112.8	1490.3	573.2	530.2	630.5	749.5	752.9	752.9	849.8	864.2
65°	9673.5	7437.0	992.1	547.8	517.0	654.8	787.0	772.7	738.5	805.8	790.2
67.5°	8057.5	5789.0	725.3	531.3	498.2	655.9	820.2	783.7	725.3	782.7	756.2
70°	5537.8	3683.8	607.3	515.8	476.2	627.1	837.7	780.4	705.4	729.8	694.4
71°	4457.6	2939.8	576.5	510.3	467.4	610.7	839.9	776.0	695.6	711.0	678.9
72.5°	2936.4	1811.1	539.1	498.2	454.2	582.0	834.4	766.1	682.4	683.4	662.5
75°	1158.5	750.7	484.9	470.6	416.6	535.7	810.2	745.1	656.9	634.9	626.1
77.5°	585.2	490.6	426.5	432.1	372.5	488.3	776.0	711.0	621.6	592.0	585.2
80°	427.7	372.5	364.8	374.8	323.0	442.0	732.9	664.7	576.5	607.3	594.0
82.5°	260.1	227.1	285.5	309.7	270.1	394.6	682.4	610.7	519.2	478.3	462.9
85°	123.4	133.4	206.2	228.2	199.6	315.2	624.0	551.1	453.0	391.3	397.9
87.5°	60.6	73.8	117.9	136.7	131.2	231.5	470.6	427.7	357.2	294.4	287.6
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)