

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: P197314

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197314  
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-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 800mA 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: 16211 lumens  
Efficiency: N/A  
Efficacy: 94.8 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

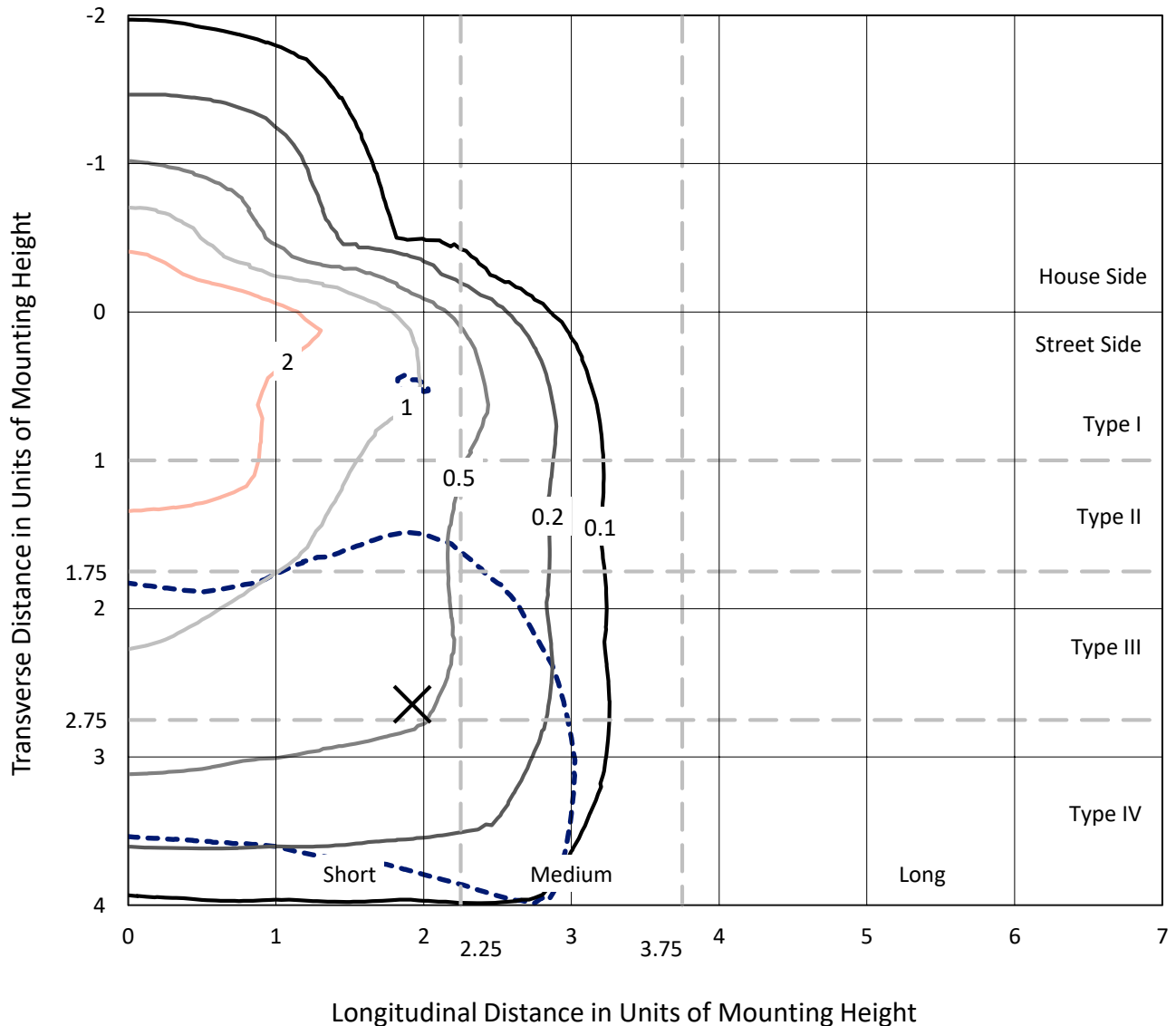
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

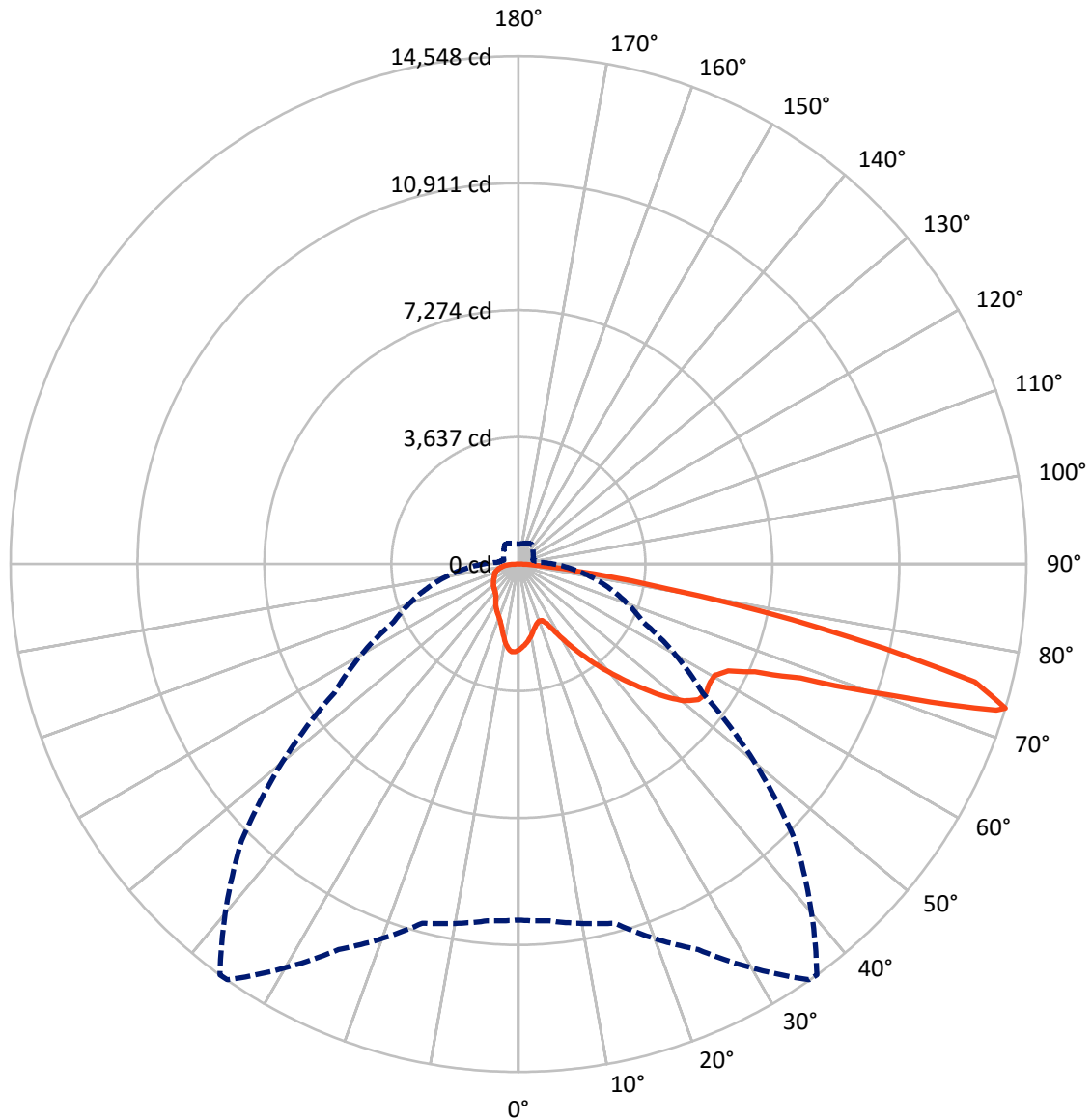
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 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
<b>House Side</b>	Lumens	3126.0	0.0	3126.0
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	13085.0	0.0	13085.0
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	16211.0	0.0	16211.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.0	1.4
10°-20°	560.1	3.5
20°-30°	898.1	5.5
30°-40°	1485.5	9.2
40°-50°	2298.6	14.2
50°-60°	3077.1	19.0
60°-70°	4019.7	24.8
70°-80°	3283.4	20.3
80°-90°	365.5	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°	16211.0	100.0
0°-180°	16211.0	100.0



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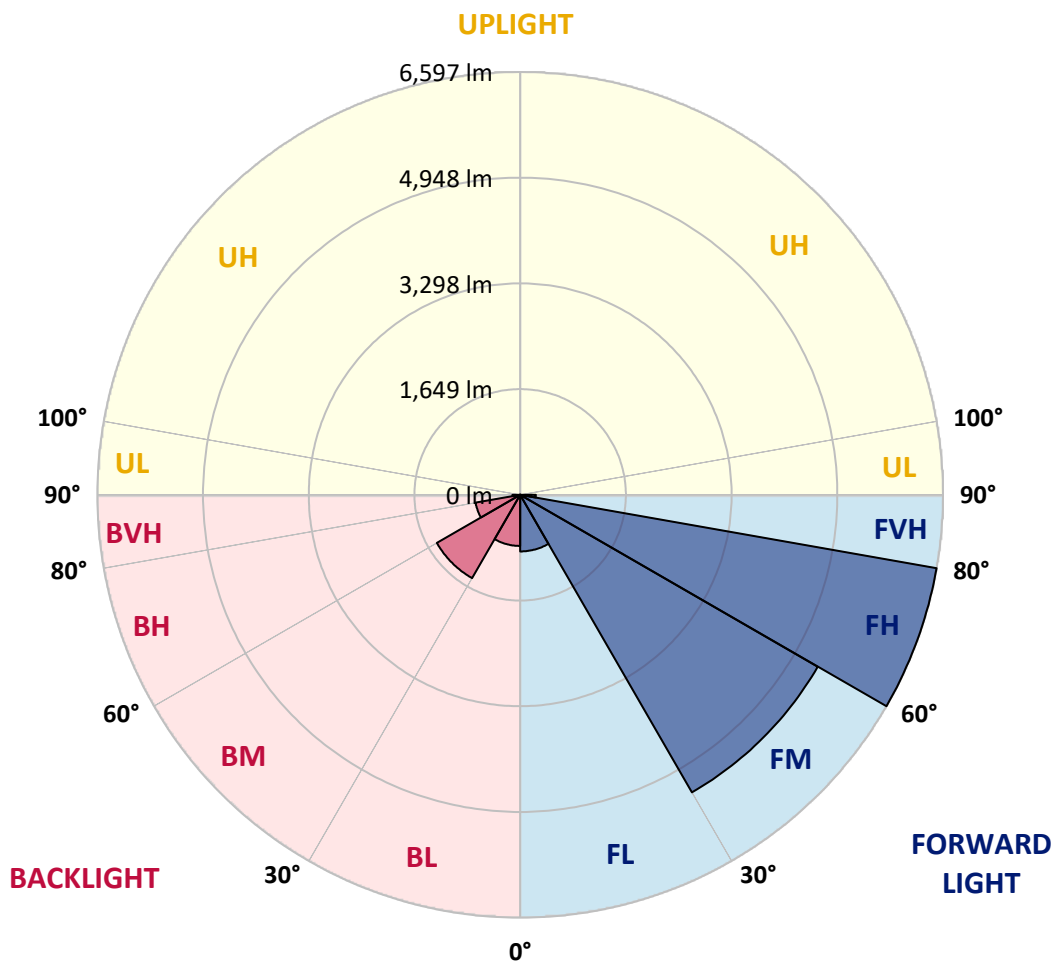
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	883.3	5.4			
FM (30°-60°)	5359.9	33.1			
FH (60°-80°)	6596.7	40.7			G3/7500
FVH (80°-90°)	245.1	1.5			G3/500
BL (0°-30°)	797.9	4.9	B2/1000		
BM (30°-60°)	1501.3	9.3	B2/2500		
BH (60°-80°)	706.4	4.4	B2/1000		G2/1000
BVH (80°-90°)	120.4	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°	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5
2.5°	2361.8	2367.9	2369.0	2376.2	2376.2	2375.2	2378.2	2390.6	2396.8	2411.2	2423.6
5°	2245.4	2252.6	2255.7	2268.0	2283.5	2284.5	2295.8	2319.5	2342.2	2374.1	2400.9
7.5°	2114.6	2122.8	2131.0	2156.8	2179.5	2181.5	2203.1	2241.3	2271.1	2310.3	2358.7
10°	1987.9	1989.9	1998.2	2031.1	2061.0	2064.1	2095.0	2138.3	2178.4	2233.0	2287.6
12.5°	1883.9	1890.0	1888.0	1912.7	1938.4	1940.5	1981.7	2036.3	2095.0	2156.8	2221.7
15°	1847.8	1846.8	1825.1	1824.1	1835.4	1837.5	1877.7	1941.5	2007.4	2083.7	2167.1
17.5°	1872.5	1864.3	1807.6	1772.6	1765.4	1767.5	1797.3	1867.4	1937.4	2025.0	2124.9
20°	2008.5	1976.5	1843.7	1759.2	1735.5	1735.5	1753.0	1809.7	1886.9	1988.9	2114.6
22.5°	2330.9	2281.4	1998.2	1847.8	1764.4	1756.1	1742.7	1786.0	1871.5	1994.1	2156.8
25°	2736.7	2713.0	2281.4	2083.7	1911.7	1884.9	1796.3	1811.8	1903.4	2049.7	2272.2
27.5°	3112.6	3071.4	2653.3	2426.7	2183.6	2142.4	1954.9	1892.1	1979.6	2152.7	2439.0
30°	3332.0	3304.2	3035.4	2819.1	2529.7	2477.1	2208.3	2050.7	2115.6	2322.6	2675.9
32.5°	3571.0	3554.5	3418.5	3221.8	2904.6	2843.8	2535.8	2309.2	2323.7	2548.2	2961.2
35°	3802.7	3824.4	3747.1	3602.9	3308.3	3251.7	2975.6	2647.1	2580.1	2801.6	3266.1
37.5°	4080.8	4086.0	4037.6	3943.8	3732.7	3686.3	3458.7	3007.6	2859.3	3071.4	3560.7
40°	4636.0	4554.6	4365.1	4290.9	4165.3	4136.4	3876.9	3338.2	3118.8	3348.5	3838.8
42.5°	5236.5	5109.8	4813.1	4691.6	4641.1	4614.4	4225.0	3558.6	3361.9	3625.6	4111.7
45°	5720.6	5617.6	5327.1	5176.7	5182.9	5139.6	4528.9	3755.3	3625.6	3903.7	4416.6
47.5°	6197.4	6025.4	5700.0	5678.3	5750.4	5686.6	4819.3	3952.1	3900.6	4206.5	4721.5
50°	6228.3	6071.8	5939.9	6113.0	6236.6	6157.3	5083.0	4209.6	4185.9	4573.2	5114.9
52.5°	5852.4	5829.7	6030.6	6322.1	6527.0	6456.0	5298.3	4474.3	4477.4	5031.5	5593.9
55°	5715.4	5686.6	5927.6	6286.0	6563.1	6520.9	5458.9	4773.0	4800.8	5587.7	6107.8
57.5°	5946.1	5874.0	5921.4	6218.0	6478.6	6453.9	5625.8	5104.6	5155.1	6228.3	6582.7
60°	6662.0	6514.7	6263.4	6319.0	6481.7	6467.3	5864.8	5474.4	5558.9	6895.8	6883.4
62.5°	7734.2	7567.3	7055.4	6808.2	6772.2	6744.4	6259.2	5928.6	5970.8	7377.8	6708.3
65°	8910.4	8731.2	8122.5	7717.7	7505.5	7445.8	6895.8	6476.6	6211.9	7376.8	6026.5
67.5°	10230.9	10041.4	9434.7	9048.5	8818.8	8716.8	7928.9	6919.5	6133.6	6752.6	4822.4
70°	11583.3	11403.0	11124.9	11259.8	11360.8	11205.3	9556.2	7066.8	5571.2	5294.1	3238.3
72.5°	10865.4	10850.9	11062.1	12341.3	14287.0	14317.9	11181.6	6650.6	4304.3	3146.6	1726.3
73°	10199.0	10259.7	10651.1	12181.7	14537.3	14547.6	11213.5	6435.4	3952.1	2710.9	1516.1
75°	5283.8	5695.8	7148.1	9877.6	13460.9	13509.3	9884.8	4871.9	2355.6	1505.8	1021.7
77.5°	1415.2	1396.7	2303.1	4812.1	8974.3	8910.4	6245.9	2358.7	1128.9	944.5	716.9
80°	485.1	491.3	783.8	1760.3	4189.0	4338.3	2710.9	1029.0	742.6	658.2	507.8
82.5°	247.2	255.4	409.9	748.8	1752.0	1714.9	872.4	605.6	497.5	399.6	284.3
85°	131.8	136.0	225.6	388.3	642.7	649.9	306.9	323.4	316.2	226.6	140.1
87.5°	64.9	66.9	108.1	171.0	237.9	229.7	107.1	140.1	155.5	127.7	77.2
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°	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5	2455.5
2.5°	2439.0	2439.0	2452.4	2475.1	2491.5	2507.0	2517.3	2533.8	2543.0	2542.0	2541.0
5°	2422.5	2432.8	2459.6	2487.4	2506.0	2518.3	2518.3	2525.5	2525.5	2522.4	2518.3
7.5°	2384.4	2401.9	2441.1	2465.8	2470.9	2457.6	2430.8	2410.2	2384.4	2371.0	2365.9
10°	2323.7	2346.3	2395.8	2407.1	2380.3	2332.9	2268.0	2212.4	2163.0	2140.3	2133.1
12.5°	2263.9	2293.8	2340.1	2322.6	2258.8	2166.1	2066.2	1989.9	1934.3	1912.7	1905.5
15°	2214.5	2250.5	2286.6	2232.0	2120.7	1992.0	1881.8	1810.7	1768.5	1752.0	1747.9
17.5°	2181.5	2223.7	2236.1	2134.1	1979.6	1835.4	1737.6	1691.2	1672.7	1665.5	1663.4
20°	2183.6	2231.0	2201.1	2039.4	1843.7	1698.5	1633.6	1620.2	1620.2	1620.2	1619.1
22.5°	2240.2	2281.4	2186.7	1950.8	1712.9	1583.1	1555.3	1566.6	1574.9	1574.9	1573.8
25°	2357.6	2380.3	2197.0	1865.3	1590.3	1483.2	1484.2	1505.8	1513.1	1513.1	1511.0
27.5°	2536.9	2518.3	2215.5	1770.6	1469.8	1392.5	1407.0	1426.5	1431.7	1428.6	1427.6
30°	2761.4	2687.2	2231.0	1659.3	1356.5	1308.1	1320.4	1331.8	1327.7	1320.4	1319.4
32.5°	3012.7	2859.3	2221.7	1534.7	1256.6	1220.5	1227.7	1233.9	1227.7	1210.2	1210.2
35°	3262.0	3014.8	2171.2	1398.7	1177.3	1136.1	1135.0	1154.6	1153.6	1133.0	1134.0
37.5°	3480.3	3137.3	2073.4	1274.1	1109.3	1074.3	1078.4	1090.8	1096.9	1069.1	1066.0
40°	3670.9	3221.8	1935.4	1168.0	1054.7	1056.8	1045.4	1025.9	1018.7	1006.3	1004.2
42.5°	3850.1	3280.5	1789.1	1079.4	1026.9	1050.6	1012.5	966.1	946.6	957.9	965.1
45°	4026.2	3346.4	1648.0	1006.3	991.9	1032.0	979.5	928.0	905.4	910.5	917.7
47.5°	4241.5	3438.1	1478.0	928.0	938.3	998.1	958.9	903.3	869.3	848.7	842.5
50°	4524.7	3571.0	1257.6	843.6	881.7	961.0	941.4	867.3	830.2	789.0	778.7
52.5°	4879.1	3696.6	1035.1	775.6	835.3	929.1	912.6	836.4	791.0	741.6	733.4
55°	5232.3	3714.1	843.6	716.9	782.8	885.8	877.6	811.6	747.8	707.6	699.4
57.5°	5479.5	3548.3	714.8	667.4	732.3	832.2	845.6	781.8	711.7	680.8	675.7
60°	5483.7	3151.8	636.5	634.5	694.2	785.9	812.7	746.7	689.1	668.5	664.3
62.5°	5048.0	2540.0	586.1	609.8	666.4	747.8	787.9	727.2	683.9	675.7	671.6
65°	4231.2	1876.6	545.9	587.1	640.7	715.8	767.3	721.0	681.9	678.8	675.7
67.5°	3124.0	1286.5	511.9	558.3	611.8	682.9	747.8	711.7	669.5	681.9	677.7
70°	1965.2	859.0	480.0	525.3	573.7	644.8	722.0	695.2	654.0	646.8	633.4
72.5°	1109.3	621.1	441.9	483.1	524.3	594.3	687.0	667.4	619.0	590.2	576.8
73°	1002.2	588.1	432.6	472.8	512.9	584.0	678.8	659.2	608.7	576.8	564.4
75°	733.4	481.0	390.4	430.5	465.6	536.6	639.6	618.0	563.4	525.3	517.1
77.5°	531.5	370.8	335.8	371.8	402.7	470.7	580.9	556.2	502.6	482.0	473.8
80°	383.2	281.2	278.1	313.1	339.9	408.9	518.1	492.3	440.8	501.6	488.2
82.5°	228.7	180.2	203.9	243.1	270.9	343.0	450.1	420.2	370.8	374.9	319.3
85°	109.2	102.0	126.7	159.6	179.2	234.8	374.9	351.2	296.6	243.1	237.9
87.5°	48.4	46.3	60.8	71.1	95.8	141.1	256.5	227.6	215.3	128.7	100.9
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)