

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: P195388

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195388
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-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 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: 16201 lumens
Efficiency: N/A
Efficacy: 125.6 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

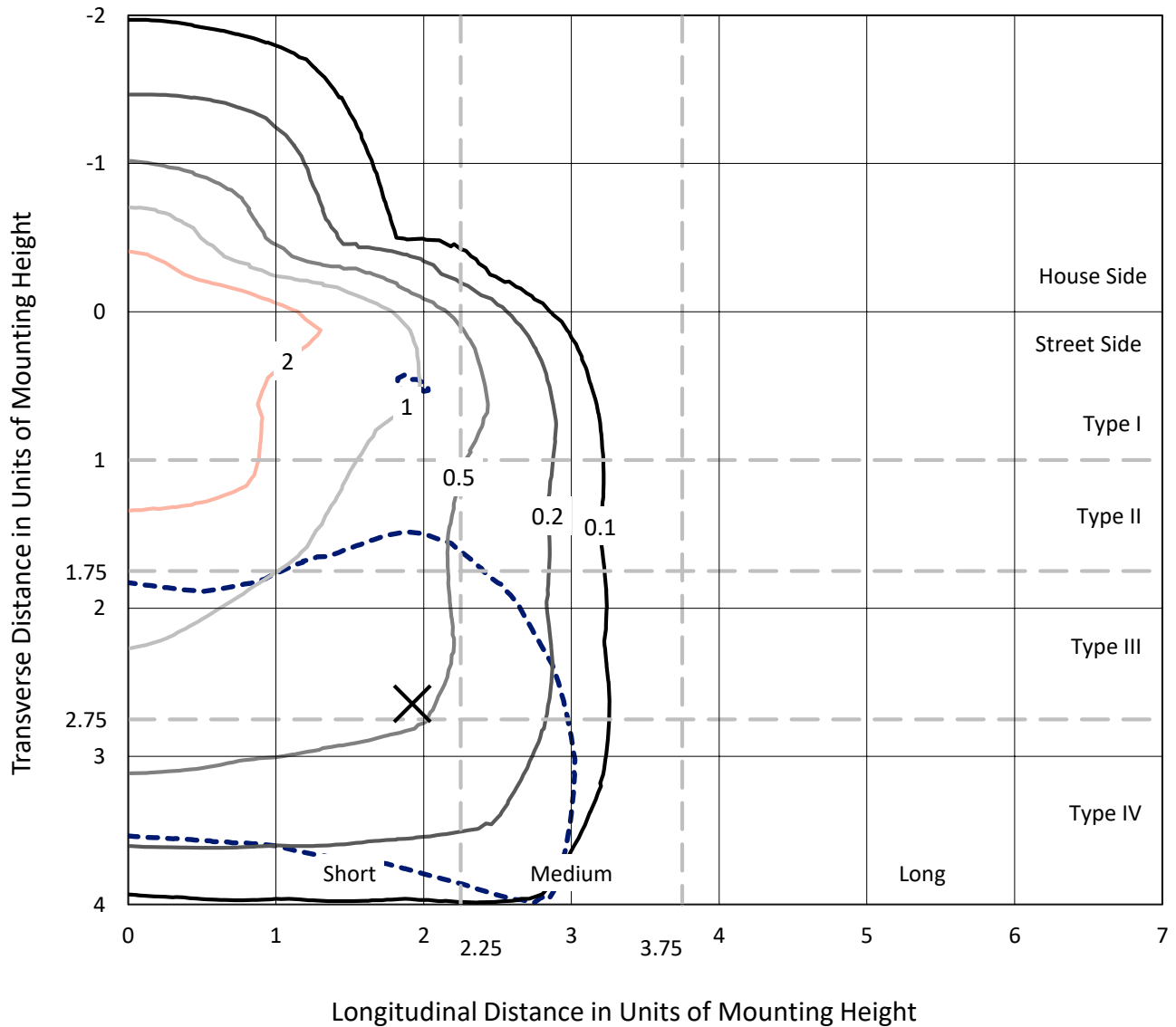


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Iso-Footcandle Lines of Horizontal Illumination

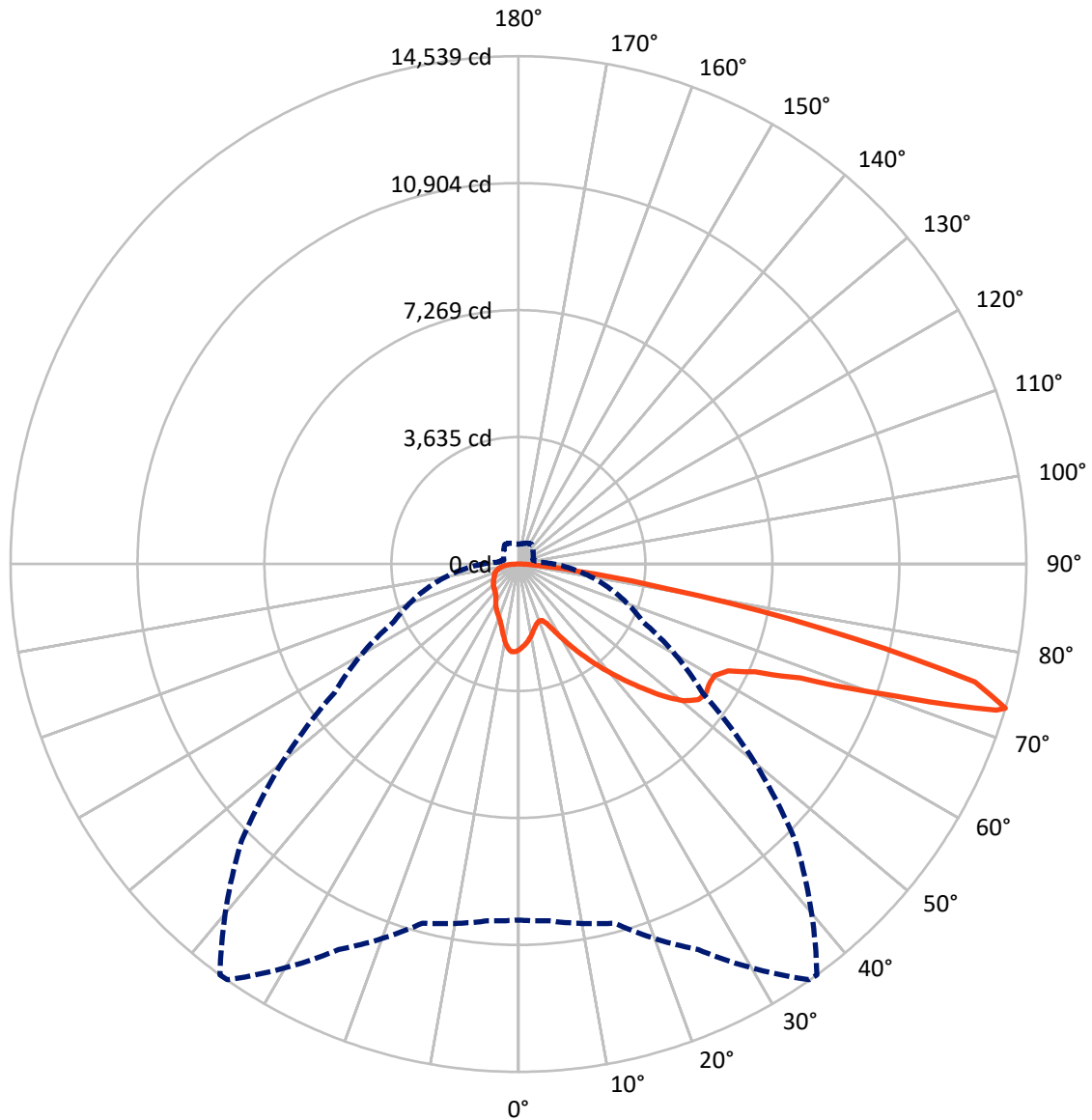
× Max cd
 - - - 1/2 Max cd



Based on 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
House Side	Lumens	3124.0	0.0	3124.0
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	13077.0	0.0	13077.0
	% Fixture	80.7	0.0	80.7
Total	Lumens	16201.0	0.0	16201.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.9	1.4
10°-20°	559.8	3.5
20°-30°	897.5	5.5
30°-40°	1484.5	9.2
40°-50°	2297.2	14.2
50°-60°	3075.2	19.0
60°-70°	4017.2	24.8
70°-80°	3281.4	20.3
80°-90°	365.2	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°	16201.0	100.0
0°-180°	16201.0	100.0



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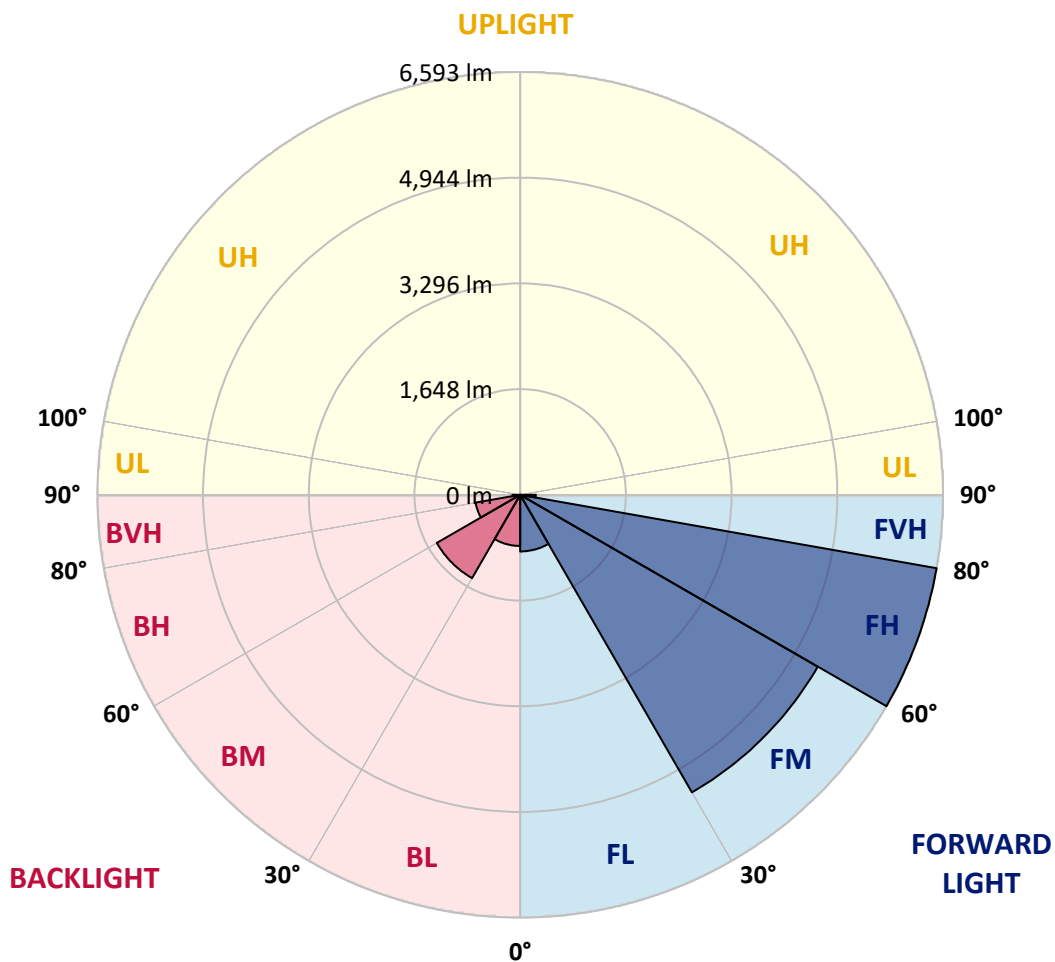
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	882.8	5.4			
FM (30°-60°)	5356.6	33.1			
FH (60°-80°)	6592.6	40.7			G3/7500
FVH (80°-90°)	245.0	1.5			G3/500
BL (0°-30°)	797.4	4.9	B2/1000		
BM (30°-60°)	1500.3	9.3	B2/2500		
BH (60°-80°)	706.0	4.4	B2/1000		G2/1000
BVH (80°-90°)	120.3	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°	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0
2.5°	2360.3	2366.5	2367.5	2374.7	2374.7	2373.7	2376.8	2389.1	2395.3	2409.7	2422.1
5°	2244.0	2251.2	2254.3	2266.6	2282.1	2283.1	2294.4	2318.1	2340.8	2372.7	2399.4
7.5°	2113.3	2121.5	2129.7	2155.5	2178.1	2180.2	2201.8	2239.9	2269.7	2308.8	2357.2
10°	1986.7	1988.7	1996.9	2029.9	2059.7	2062.8	2093.7	2136.9	2177.1	2231.6	2286.2
12.5°	1882.7	1888.9	1886.8	1911.5	1937.2	1939.3	1980.5	2035.0	2093.7	2155.5	2220.3
15°	1846.7	1845.6	1824.0	1823.0	1834.3	1836.4	1876.5	1940.3	2006.2	2082.4	2165.8
17.5°	1871.4	1863.1	1806.5	1771.5	1764.3	1766.4	1796.2	1866.2	1936.2	2023.7	2123.6
20°	2007.2	1975.3	1842.5	1758.1	1734.5	1734.5	1752.0	1808.6	1885.8	1987.7	2113.3
22.5°	2329.4	2280.0	1996.9	1846.7	1763.3	1755.0	1741.7	1784.9	1870.3	1992.8	2155.5
25°	2735.0	2711.3	2280.0	2082.4	1910.5	1883.7	1795.2	1810.6	1902.2	2048.4	2270.8
27.5°	3110.7	3069.5	2651.6	2425.2	2182.2	2141.1	1953.7	1890.9	1978.4	2151.4	2437.5
30°	3330.0	3302.2	3033.5	2817.3	2528.1	2475.6	2206.9	2049.4	2114.3	2321.2	2674.3
32.5°	3568.8	3552.3	3416.4	3219.8	2902.8	2842.0	2534.3	2307.8	2322.2	2546.6	2959.4
35°	3800.4	3822.0	3744.8	3600.7	3306.3	3249.7	2973.8	2645.4	2578.5	2799.8	3264.1
37.5°	4078.3	4083.4	4035.1	3941.4	3730.4	3684.1	3456.6	3005.7	2857.5	3069.5	3558.5
40°	4633.1	4551.8	4362.4	4288.3	4162.7	4133.9	3874.5	3336.1	3116.9	3346.4	3836.4
42.5°	5233.2	5106.6	4810.2	4688.7	4638.3	4611.5	4222.4	3556.4	3359.8	3623.3	4109.2
45°	5717.0	5614.1	5323.8	5173.5	5179.7	5136.5	4526.1	3753.0	3623.3	3901.3	4413.9
47.5°	6193.6	6021.7	5696.4	5674.8	5746.9	5683.1	4816.3	3949.6	3898.2	4203.9	4718.6
50°	6224.5	6068.0	5936.3	6109.2	6232.7	6153.5	5079.9	4207.0	4183.3	4570.3	5111.8
52.5°	5848.8	5826.1	6026.9	6318.2	6523.0	6452.0	5295.0	4471.5	4474.6	5028.4	5590.4
55°	5711.9	5683.1	5923.9	6282.1	6559.0	6516.8	5455.6	4770.0	4797.8	5584.2	6104.1
57.5°	5942.5	5870.4	5917.8	6214.2	6474.6	6449.9	5622.3	5101.5	5151.9	6224.5	6578.6
60°	6657.9	6510.7	6259.5	6315.1	6477.7	6463.3	5861.1	5471.0	5555.4	6891.5	6879.2
62.5°	7729.4	7562.7	7051.1	6804.0	6768.0	6740.2	6255.4	5925.0	5967.2	7373.3	6704.2
65°	8904.9	8725.8	8117.5	7713.0	7500.9	7441.2	6891.5	6472.6	6208.0	7372.2	6022.8
67.5°	10224.6	10035.2	9428.9	9042.9	8813.3	8711.4	7924.0	6915.2	6129.8	6748.4	4819.4
70°	11576.1	11396.0	11118.1	11252.9	11353.8	11198.3	9550.3	7062.4	5567.8	5290.9	3236.3
72.5°	10858.7	10844.2	11055.3	12333.7	14278.2	14309.1	11174.7	6646.5	4301.7	3144.7	1725.2
73°	10192.7	10253.4	10644.6	12174.2	14528.3	14538.6	11206.6	6431.4	3949.6	2709.3	1515.2
75°	5280.6	5692.3	7143.7	9871.5	13452.6	13501.0	9878.7	4868.8	2354.1	1504.9	1021.1
77.5°	1414.3	1395.8	2301.6	4809.1	8968.8	8904.9	6242.0	2357.2	1128.2	943.9	716.4
80°	484.8	491.0	783.3	1759.2	4186.4	4335.6	2709.3	1028.3	742.2	657.8	507.5
82.5°	247.0	255.3	409.7	748.3	1750.9	1713.9	871.9	605.3	497.2	399.4	284.1
85°	131.8	135.9	225.4	388.1	642.3	649.5	306.7	323.2	316.0	226.5	140.0
87.5°	64.8	66.9	108.1	170.9	237.8	229.5	107.1	140.0	155.4	127.6	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°	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0	2454.0
2.5°	2437.5	2437.5	2450.9	2473.5	2490.0	2505.4	2515.7	2532.2	2541.5	2540.4	2539.4
5°	2421.0	2431.3	2458.1	2485.9	2504.4	2516.8	2516.8	2524.0	2524.0	2520.9	2516.8
7.5°	2383.0	2400.5	2439.6	2464.3	2469.4	2456.0	2429.3	2408.7	2383.0	2369.6	2364.4
10°	2322.2	2344.9	2394.3	2405.6	2378.8	2331.5	2266.6	2211.1	2161.6	2139.0	2131.8
12.5°	2262.5	2292.4	2338.7	2321.2	2257.4	2164.7	2064.9	1988.7	1933.1	1911.5	1904.3
15°	2213.1	2249.1	2285.2	2230.6	2119.4	1990.8	1880.6	1809.6	1767.4	1750.9	1746.8
17.5°	2180.2	2222.4	2234.7	2132.8	1978.4	1834.3	1736.5	1690.2	1671.7	1664.5	1662.4
20°	2182.2	2229.6	2199.7	2038.1	1842.5	1697.4	1632.6	1619.2	1619.2	1619.2	1618.1
22.5°	2238.8	2280.0	2185.3	1949.6	1711.8	1582.1	1554.3	1565.6	1573.9	1573.9	1572.9
25°	2356.2	2378.8	2195.6	1864.2	1589.3	1482.3	1483.3	1504.9	1512.1	1512.1	1510.1
27.5°	2535.3	2516.8	2214.1	1769.5	1468.9	1391.7	1406.1	1425.7	1430.8	1427.7	1426.7
30°	2759.7	2685.6	2229.6	1658.3	1355.7	1307.3	1319.6	1331.0	1326.8	1319.6	1318.6
32.5°	3010.9	2857.5	2220.3	1533.7	1255.8	1219.8	1227.0	1233.2	1227.0	1209.5	1209.5
35°	3260.0	3012.9	2169.9	1397.9	1176.6	1135.4	1134.3	1153.9	1152.9	1132.3	1133.3
37.5°	3478.2	3135.4	2072.1	1273.3	1108.6	1073.6	1077.7	1090.1	1096.3	1068.5	1065.4
40°	3668.6	3219.8	1934.2	1167.3	1054.1	1056.1	1044.8	1025.2	1018.0	1005.7	1003.6
42.5°	3847.7	3278.5	1788.0	1078.8	1026.3	1049.9	1011.9	965.5	946.0	957.3	964.5
45°	4023.7	3344.4	1647.0	1005.7	991.3	1031.4	978.9	927.4	904.8	909.9	917.2
47.5°	4238.9	3436.0	1477.1	927.4	937.7	997.4	958.3	902.7	868.8	848.2	842.0
50°	4522.0	3568.8	1256.8	843.0	881.1	960.4	940.8	866.7	829.7	788.5	778.2
52.5°	4876.1	3694.4	1034.5	775.1	834.8	928.5	912.0	835.8	790.5	741.1	732.9
55°	5229.1	3711.9	843.0	716.4	782.3	885.2	877.0	811.1	747.3	707.2	698.9
57.5°	5476.2	3546.1	714.4	667.0	731.9	831.7	845.1	781.3	711.3	680.4	675.3
60°	5480.3	3149.8	636.1	634.1	693.8	785.4	812.2	746.3	688.6	668.1	663.9
62.5°	5044.9	2538.4	585.7	609.4	666.0	747.3	787.5	726.7	683.5	675.3	671.1
65°	4228.6	1875.5	545.6	586.7	640.3	715.4	766.9	720.5	681.4	678.3	675.3
67.5°	3122.0	1285.7	511.6	557.9	611.4	682.5	747.3	711.3	669.1	681.4	677.3
70°	1964.0	858.5	479.7	525.0	573.4	644.4	721.6	694.8	653.6	646.4	633.1
72.5°	1108.6	620.7	441.6	482.8	523.9	593.9	686.6	667.0	618.6	589.8	576.4
73°	1001.6	587.8	432.3	472.5	512.6	583.6	678.3	658.8	608.3	576.4	564.1
75°	732.9	480.7	390.1	430.3	465.3	536.3	639.2	617.6	563.1	525.0	516.7
77.5°	531.1	370.6	335.6	371.6	402.5	470.4	580.6	555.9	502.3	481.7	473.5
80°	382.9	281.0	277.9	312.9	339.7	408.7	517.8	492.0	440.6	501.3	487.9
82.5°	228.5	180.1	203.8	242.9	270.7	342.8	449.8	420.0	370.6	374.7	319.1
85°	109.1	101.9	126.6	159.5	179.1	234.7	374.7	351.0	296.5	242.9	237.8
87.5°	48.4	46.3	60.7	71.0	95.7	141.0	256.3	227.5	215.1	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)