

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: P195843

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195843
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T3R-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12139 lumens
Efficiency: N/A
Efficacy: 126.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

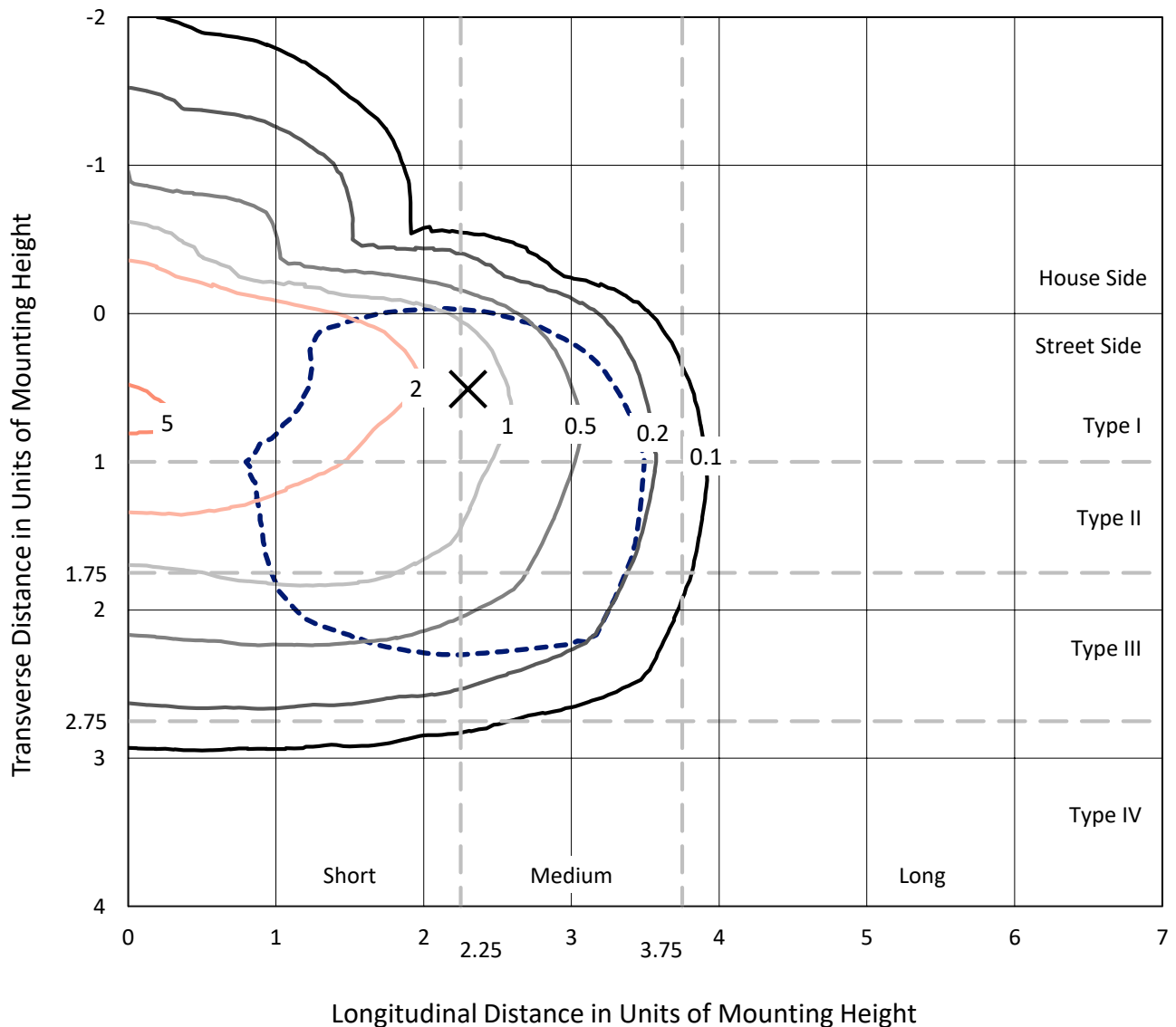
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

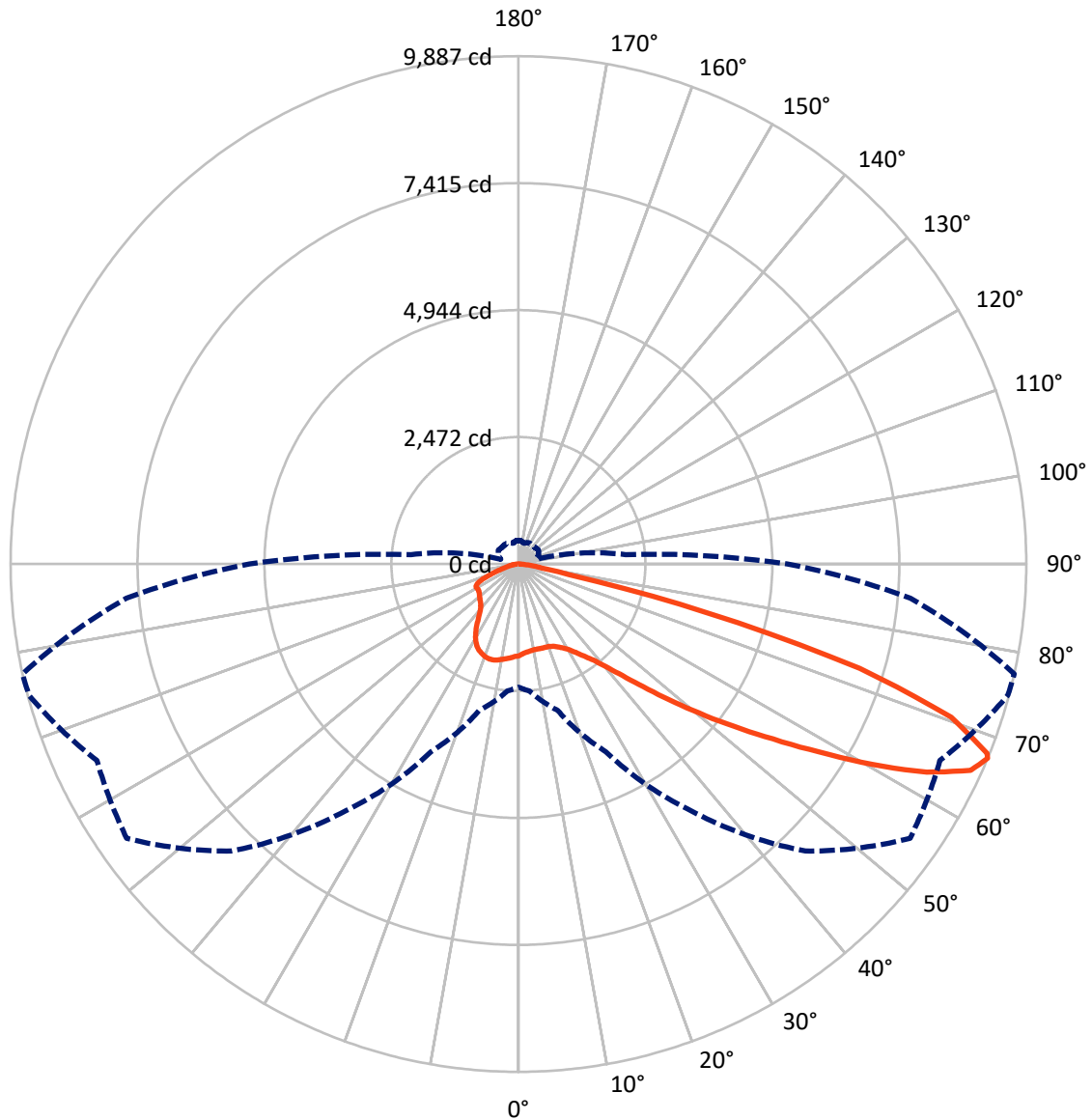
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.4 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2086.1	0.0	2086.1
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	10052.9	0.0	10052.9
	% Fixture	82.8	0.0	82.8
Total	Lumens	12139.0	0.0	12139.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	1.3
10°-20°	440.7	3.6
20°-30°	748.7	6.2
30°-40°	1197.8	9.9
40°-50°	1844.0	15.2
50°-60°	2558.3	21.1
60°-70°	3412.6	28.1
70°-80°	1624.1	13.4
80°-90°	153.8	1.3
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°	12139.0	100.0
0°-180°	12139.0	100.0



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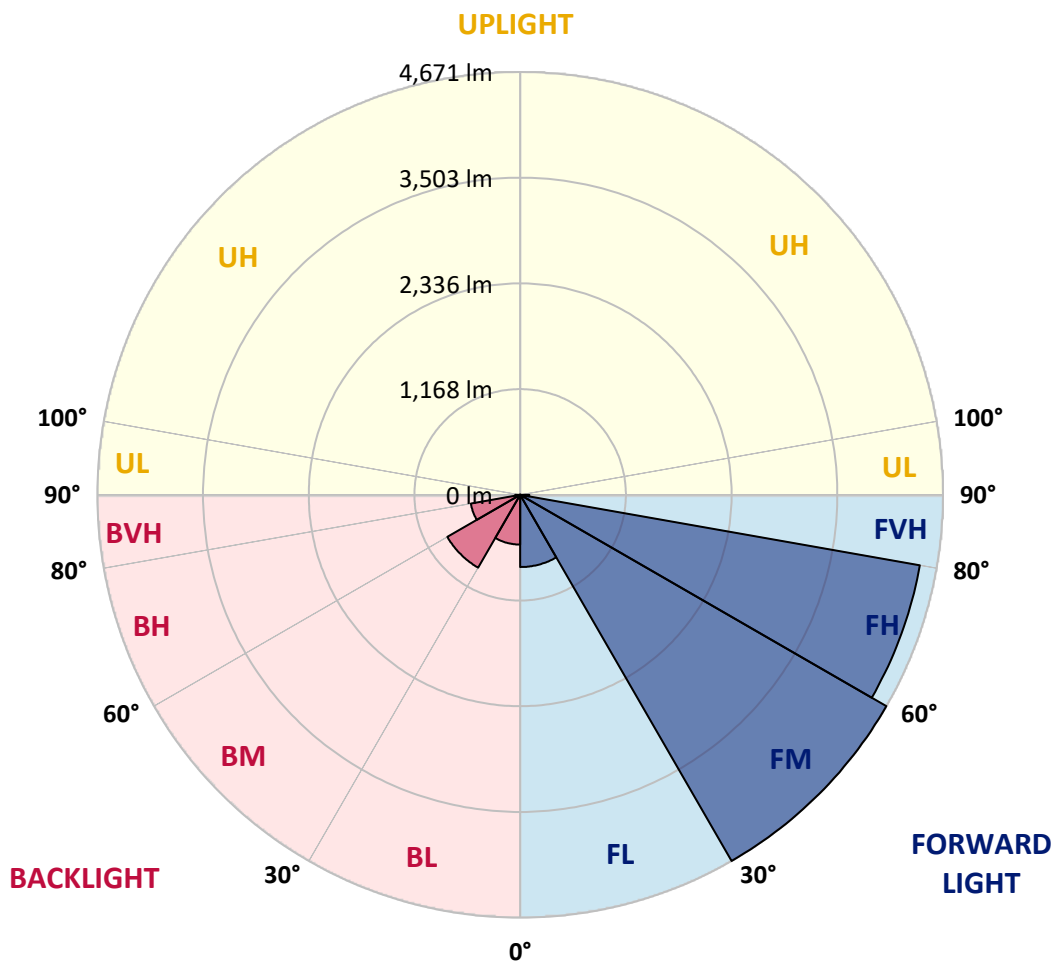
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	798.3	6.6			
FM	(30°-60°)	4671.2	38.5			
FH	(60°-80°)	4483.6	36.9			G2/5000
FVH	(80°-90°)	99.9	0.8			G1/100
BL	(0°-30°)	550.2	4.5	B2/1000		
BM	(30°-60°)	928.8	7.7	B1/1000		
BH	(60°-80°)	553.1	4.6	B2/1000		G2/1000
BVH	(80°-90°)	53.9	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5
2.5°	1602.0	1609.5	1610.2	1632.0	1641.7	1666.5	1693.5	1717.5	1738.5	1746.0	1759.5
5°	1441.4	1441.4	1443.6	1457.9	1485.7	1525.4	1581.7	1643.2	1707.8	1723.5	1763.3
7.5°	1357.4	1358.9	1360.4	1374.6	1396.4	1431.6	1487.9	1571.9	1679.2	1705.5	1775.3
10°	1364.9	1362.6	1355.1	1352.1	1361.1	1383.6	1432.4	1518.7	1655.2	1695.8	1797.0
12.5°	1482.7	1478.2	1453.4	1417.4	1384.4	1376.1	1409.9	1491.7	1644.0	1695.8	1833.8
15°	1684.5	1687.5	1638.7	1563.7	1477.4	1418.9	1414.4	1481.9	1640.2	1700.3	1876.6
17.5°	1947.1	1948.6	1881.1	1772.3	1629.0	1508.2	1445.1	1481.9	1640.2	1704.8	1917.9
20°	2226.2	2215.7	2139.2	2002.6	1816.6	1632.0	1501.4	1490.9	1644.7	1711.5	1956.9
22.5°	2465.6	2455.8	2375.6	2232.2	2019.1	1778.3	1577.2	1520.9	1669.5	1739.3	2011.6
25°	2674.9	2680.9	2602.9	2441.6	2221.0	1943.4	1690.5	1590.0	1721.3	1789.5	2079.2
27.5°	2929.3	2918.0	2828.0	2674.2	2428.8	2114.4	1832.3	1677.0	1782.8	1850.3	2161.7
30°	3223.4	3218.2	3096.6	2938.3	2657.7	2305.8	1972.6	1770.8	1863.1	1933.6	2265.3
32.5°	3580.6	3579.8	3449.3	3254.9	2915.0	2521.9	2138.4	1899.1	1980.1	2051.4	2402.6
35°	3985.0	3984.3	3849.2	3592.6	3211.4	2761.2	2333.5	2055.2	2124.9	2200.0	2566.1
37.5°	4265.6	4261.1	4190.6	3941.5	3539.3	3039.6	2577.4	2265.3	2289.3	2373.3	2763.5
40°	4319.7	4346.7	4407.5	4260.4	3897.2	3348.7	2822.0	2491.1	2513.6	2621.7	3011.8
42.5°	4261.1	4296.4	4498.2	4539.5	4255.1	3723.2	3128.1	2804.0	2832.5	2966.8	3303.7
45°	4210.1	4240.9	4493.7	4694.1	4608.5	4131.3	3510.1	3185.9	3239.9	3406.5	3636.9
47.5°	4123.1	4151.6	4405.2	4721.8	4810.4	4524.5	3970.0	3645.1	3738.2	3940.0	4016.5
50°	4118.6	4131.3	4284.4	4628.8	4880.2	4823.1	4479.5	4182.4	4324.9	4557.5	4436.7
52.5°	4004.5	4093.8	4232.6	4480.2	4881.7	4997.2	4981.5	4771.4	4991.2	5248.6	4897.4
55°	3306.7	3409.5	4060.0	4407.5	4872.7	5146.5	5439.9	5397.9	5741.5	6012.4	5413.6
57.5°	3087.6	3131.1	3561.8	4429.2	4947.7	5393.4	5898.4	6070.9	6599.9	6895.6	6032.7
60°	3027.6	3073.4	3462.0	4439.7	5151.0	5842.8	6520.4	6831.0	7609.1	7922.8	6735.7
62.5°	2960.8	3020.1	3469.5	4449.5	5508.2	6507.6	7345.8	7655.6	8645.3	8925.2	7394.5
65°	2765.7	2844.5	3330.7	4387.9	5899.1	7342.0	8436.7	8515.5	9501.5	9679.3	7792.2
67°	2395.8	2482.1	2949.6	4032.3	5863.1	7904.0	9309.4	9053.5	9865.4	9887.1	7663.1
67.5°	2278.8	2368.0	2820.5	3884.5	5760.3	7977.5	9463.9	9127.8	9862.4	9838.4	7543.1
70°	1534.4	1635.0	1997.4	2852.0	4620.5	7424.5	9426.4	8898.9	9215.6	8940.2	6480.6
72.5°	761.6	764.6	996.4	1562.2	2799.5	5325.1	7863.5	7612.9	7470.3	6950.3	4755.6
75°	366.9	373.7	470.5	690.3	1180.3	2749.2	5362.6	5136.8	4373.7	3786.9	2380.1
77.5°	279.9	286.6	365.4	449.4	492.2	896.6	2656.2	2146.7	1267.3	1012.2	670.8
80°	216.1	228.9	308.4	345.2	325.6	359.4	835.1	657.3	493.0	452.5	332.4
82.5°	168.8	176.3	261.9	261.9	225.1	240.9	388.7	379.7	306.1	276.1	178.6
85°	119.3	134.3	210.8	195.1	147.8	149.3	232.6	222.8	157.6	126.8	69.8
87.5°	53.3	68.3	150.1	127.6	78.8	60.8	95.3	81.8	62.3	48.0	32.3
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°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5
2.5°	1774.5	1786.5	1805.3	1816.6	1831.6	1837.6	1843.6	1854.1	1862.3	1860.1	1856.3
5°	1791.0	1811.3	1834.6	1842.1	1842.1	1834.6	1830.1	1830.8	1828.6	1827.1	1822.6
7.5°	1815.1	1842.8	1859.3	1851.8	1828.6	1799.3	1771.5	1755.0	1739.3	1729.5	1732.5
10°	1848.8	1879.6	1880.3	1847.3	1791.8	1728.0	1673.2	1638.0	1604.2	1589.2	1593.7
12.5°	1897.6	1928.4	1902.1	1830.8	1733.3	1633.5	1532.9	1460.1	1394.9	1379.1	1374.6
15°	1950.1	1974.1	1915.6	1795.5	1649.2	1484.9	1316.1	1207.3	1134.5	1121.7	1117.2
17.5°	1995.9	2009.4	1908.8	1732.5	1516.4	1257.6	1061.0	987.4	972.4	979.9	979.9
20°	2036.4	2031.9	1879.6	1635.0	1307.1	1005.4	891.4	890.6	910.9	929.7	931.2
22.5°	2087.4	2052.2	1833.1	1490.2	1057.2	838.9	819.4	838.9	861.4	882.4	884.6
25°	2148.2	2074.7	1770.8	1283.8	850.1	761.6	769.8	786.3	800.6	817.1	817.9
27.5°	2209.0	2091.9	1683.0	1041.5	737.6	712.1	721.1	727.8	731.6	742.1	742.1
30°	2279.5	2105.4	1556.2	834.4	685.8	668.5	663.3	660.3	663.3	677.6	678.3
32.5°	2368.0	2129.4	1382.9	715.8	661.8	637.8	610.8	595.8	606.3	631.8	636.3
35°	2468.6	2158.0	1175.0	668.5	653.5	622.8	573.3	550.0	553.7	577.0	580.8
37.5°	2594.7	2194.7	970.2	657.3	661.8	621.3	556.0	523.0	506.5	507.2	506.5
40°	2756.0	2231.5	808.1	660.3	679.8	625.0	547.7	496.0	461.5	463.0	466.0
42.5°	2924.8	2255.5	705.3	669.3	701.6	630.3	544.7	469.7	439.7	465.2	488.5
45°	3122.1	2248.7	652.0	677.6	718.1	632.5	533.5	466.7	441.9	518.5	562.0
47.5°	3348.7	2219.5	622.0	681.3	722.6	631.8	525.2	476.5	460.7	593.5	643.0
50°	3594.8	2173.7	598.0	675.3	720.3	628.8	534.2	488.5	468.2	610.0	648.3
52.5°	3864.2	2131.7	573.3	661.8	709.1	619.8	545.5	483.2	447.2	562.0	591.3
55°	4183.1	2121.9	545.5	638.5	690.3	610.0	539.5	466.7	423.9	498.2	516.2
57.5°	4547.8	2182.7	509.5	610.0	664.8	590.5	525.2	457.7	415.7	453.2	463.0
60°	5010.7	2317.0	471.2	580.0	633.3	561.2	512.5	460.0	417.9	446.4	448.7
62.5°	5372.4	2437.8	436.7	543.2	591.3	526.0	499.0	462.2	424.7	455.5	451.7
65°	5503.7	2378.6	393.9	488.5	532.0	487.0	480.2	463.7	424.7	460.7	452.5
67°	5234.3	2095.7	353.4	433.7	475.7	452.5	462.2	457.7	417.2	460.0	445.7
67.5°	5106.0	1995.9	342.9	424.7	460.7	441.9	457.7	454.7	414.9	458.5	441.9
70°	4210.9	1431.6	289.6	356.4	385.7	389.4	429.9	435.2	396.9	430.7	400.7
72.5°	2996.1	895.9	249.9	276.1	311.4	333.1	392.4	408.9	372.9	374.4	349.7
75°	1482.7	481.0	222.8	213.1	242.4	277.6	342.2	372.9	337.6	312.1	303.9
77.5°	500.5	272.4	188.3	171.8	188.3	222.8	283.6	325.6	297.9	264.1	258.9
80°	258.9	198.1	147.1	138.1	148.6	172.6	222.1	270.9	254.4	255.9	210.8
82.5°	161.3	120.8	105.8	105.0	112.5	132.1	163.6	219.8	218.3	186.8	135.8
85°	75.0	69.8	67.5	69.8	72.0	75.0	106.5	156.8	165.8	100.5	89.3
87.5°	31.5	30.8	27.0	29.3	32.3	31.5	42.8	66.8	93.0	63.0	57.8
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)