

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: P197308

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197308
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-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 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: 13220 lumens
Efficiency: N/A
Efficacy: 102.5 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

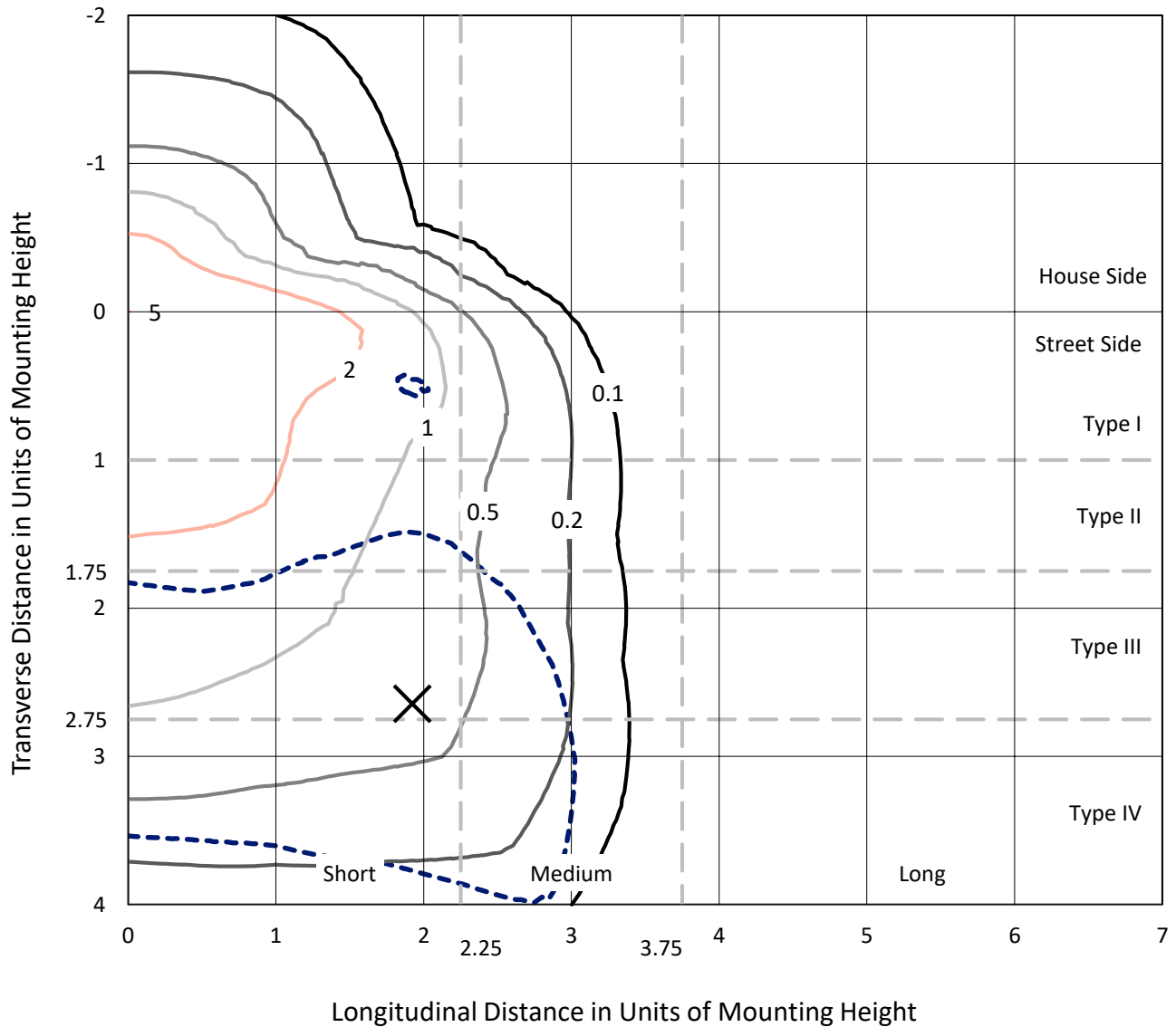
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

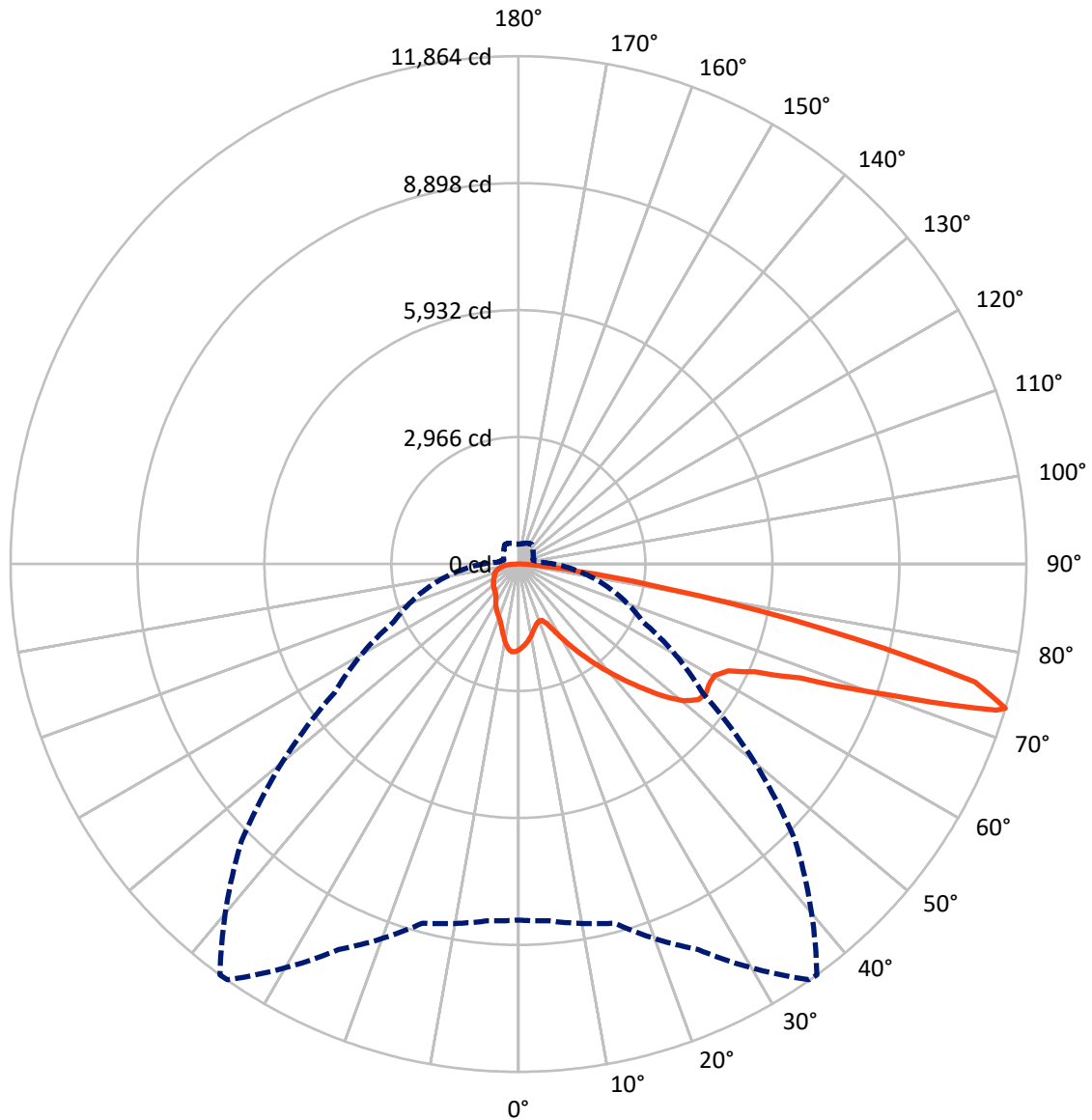
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 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	2549.2	0.0	2549.2
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	10670.8	0.0	10670.8
	% Fixture	80.7	0.0	80.7
Total	Lumens	13220.0	0.0	13220.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	1.4
10°-20°	456.8	3.5
20°-30°	732.4	5.5
30°-40°	1211.4	9.2
40°-50°	1874.5	14.2
50°-60°	2509.4	19.0
60°-70°	3278.1	24.8
70°-80°	2677.6	20.3
80°-90°	298.0	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°	13220.0	100.0
0°-180°	13220.0	100.0



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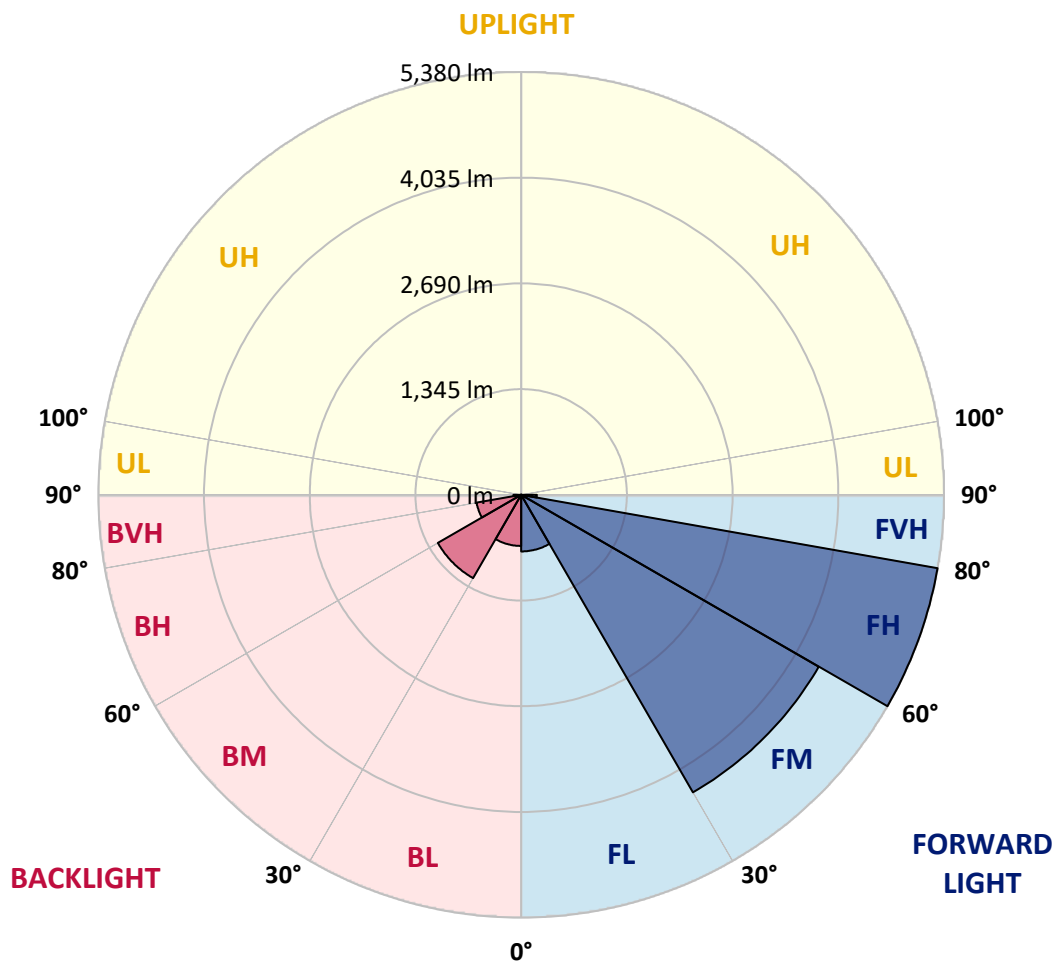
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	720.3	5.4			
FM	(30°-60°)	4371.0	33.1			
FH	(60°-80°)	5379.6	40.7			G3/7500
FVH	(80°-90°)	199.9	1.5			G2/225
BL	(0°-30°)	650.7	4.9	B2/1000		
BM	(30°-60°)	1224.3	9.3	B2/2500		
BH	(60°-80°)	576.1	4.4	B2/1000		G2/1000
BVH	(80°-90°)	98.2	0.7			G1/100
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°	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4
2.5°	1926.0	1931.0	1931.9	1937.8	1937.8	1936.9	1939.4	1949.5	1954.6	1966.3	1976.4
5°	1831.1	1837.0	1839.5	1849.6	1862.2	1863.0	1872.3	1891.6	1910.1	1936.1	1957.9
7.5°	1724.4	1731.1	1737.9	1758.9	1777.3	1779.0	1796.7	1827.7	1852.1	1884.0	1923.5
10°	1621.1	1622.8	1629.5	1656.4	1680.7	1683.3	1708.5	1743.7	1776.5	1821.0	1865.5
12.5°	1536.3	1541.3	1539.6	1559.8	1580.8	1582.5	1616.1	1660.6	1708.5	1758.9	1811.8
15°	1506.9	1506.0	1488.4	1487.6	1496.8	1498.5	1531.2	1583.3	1637.1	1699.2	1767.3
17.5°	1527.0	1520.3	1474.1	1445.6	1439.7	1441.4	1465.7	1522.8	1579.9	1651.3	1732.8
20°	1637.9	1611.9	1503.5	1434.6	1415.3	1415.3	1429.6	1475.8	1538.8	1621.9	1724.4
22.5°	1900.8	1860.5	1629.5	1506.9	1438.8	1432.1	1421.2	1456.5	1526.2	1626.1	1758.9
25°	2231.8	2212.4	1860.5	1699.2	1559.0	1537.1	1464.9	1477.5	1552.2	1671.5	1852.9
27.5°	2538.3	2504.7	2163.7	1978.9	1780.7	1747.1	1594.2	1543.0	1614.4	1755.5	1989.0
30°	2717.2	2694.6	2475.3	2298.9	2062.9	2020.1	1800.9	1672.3	1725.3	1894.1	2182.2
32.5°	2912.1	2898.7	2787.8	2627.4	2368.7	2319.1	2068.0	1883.2	1894.9	2078.0	2414.9
35°	3101.1	3118.7	3055.7	2938.2	2697.9	2651.7	2426.6	2158.7	2104.1	2284.7	2663.5
37.5°	3327.9	3332.1	3292.6	3216.2	3044.0	3006.2	2820.6	2452.7	2331.7	2504.7	2903.7
40°	3780.6	3714.3	3559.7	3499.2	3396.8	3373.2	3161.6	2722.3	2543.4	2730.7	3130.5
42.5°	4270.3	4167.0	3925.1	3826.0	3784.8	3763.0	3445.5	2902.0	2741.6	2956.6	3353.1
45°	4665.1	4581.1	4344.2	4221.6	4226.6	4191.4	3693.3	3062.5	2956.6	3183.4	3601.7
47.5°	5054.0	4913.7	4648.3	4630.7	4689.5	4637.4	3930.1	3222.9	3180.9	3430.4	3850.3
50°	5079.2	4951.5	4844.0	4985.1	5085.9	5021.2	4145.2	3432.9	3413.6	3729.4	4171.2
52.5°	4772.6	4754.1	4917.9	5155.6	5322.8	5264.8	4320.7	3648.8	3651.3	4103.2	4561.8
55°	4660.9	4637.4	4833.9	5126.2	5352.2	5317.7	4451.7	3892.3	3915.0	4556.7	4980.9
57.5°	4849.0	4790.2	4828.9	5070.8	5283.3	5263.1	4587.8	4162.8	4204.0	5079.2	5368.1
60°	5432.8	5312.7	5107.7	5153.1	5285.8	5274.1	4782.7	4464.3	4533.2	5623.5	5613.4
62.5°	6307.2	6171.1	5753.7	5552.1	5522.7	5500.0	5104.4	4834.8	4869.2	6016.6	5470.6
65°	7266.4	7120.3	6623.9	6293.8	6120.7	6072.0	5623.5	5281.6	5065.8	6015.7	4914.6
67.5°	8343.2	8188.7	7694.0	7379.0	7191.7	7108.5	6466.0	5642.8	5001.9	5506.7	3932.7
70°	9446.1	9299.1	9072.3	9182.4	9264.7	9137.8	7793.1	5762.9	4543.3	4317.4	2640.8
72.5°	8860.7	8848.9	9021.1	10064.3	11651.0	11676.2	9118.5	5423.6	3510.2	2566.1	1407.8
73°	8317.2	8366.8	8685.9	9934.1	11855.1	11863.5	9144.6	5248.0	3222.9	2210.8	1236.4
75°	4309.0	4644.9	5829.3	8055.1	10977.3	11016.8	8061.0	3973.0	1921.0	1228.0	833.2
77.5°	1154.1	1139.0	1878.1	3924.3	7318.5	7266.4	5093.5	1923.5	920.6	770.2	584.6
80°	395.6	400.7	639.2	1435.5	3416.1	3537.9	2210.8	839.1	605.6	536.7	414.1
82.5°	201.6	208.3	334.3	610.6	1428.8	1398.5	711.4	493.9	405.7	325.9	231.8
85°	107.5	110.9	183.9	316.7	524.1	530.0	250.3	263.7	257.9	184.8	114.2
87.5°	52.9	54.6	88.2	139.4	194.0	187.3	87.4	114.2	126.8	104.2	63.0
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°	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4	2002.4
2.5°	1989.0	1989.0	1999.9	2018.4	2031.8	2044.4	2052.8	2066.3	2073.8	2073.0	2072.2
5°	1975.6	1984.0	2005.8	2028.5	2043.6	2053.7	2053.7	2059.6	2059.6	2057.0	2053.7
7.5°	1944.5	1958.8	1990.7	2010.8	2015.0	2004.1	1982.3	1965.5	1944.5	1933.6	1929.4
10°	1894.9	1913.4	1953.7	1963.0	1941.1	1902.5	1849.6	1804.2	1763.9	1745.4	1739.5
12.5°	1846.2	1870.6	1908.4	1894.1	1842.0	1766.4	1684.9	1622.8	1577.4	1559.8	1553.9
15°	1805.9	1835.3	1864.7	1820.2	1729.5	1624.5	1534.6	1476.6	1442.2	1428.8	1425.4
17.5°	1779.0	1813.5	1823.5	1740.4	1614.4	1496.8	1417.0	1379.2	1364.1	1358.2	1356.5
20°	1780.7	1819.3	1795.0	1663.1	1503.5	1385.1	1332.2	1321.2	1321.2	1321.2	1320.4
22.5°	1826.9	1860.5	1783.2	1590.9	1396.8	1291.0	1268.3	1277.6	1284.3	1284.3	1283.4
25°	1922.7	1941.1	1791.6	1521.2	1296.9	1209.5	1210.4	1228.0	1233.9	1233.9	1232.2
27.5°	2068.8	2053.7	1806.7	1443.9	1198.6	1135.6	1147.4	1163.3	1167.5	1165.0	1164.2
30°	2251.9	2191.4	1819.3	1353.2	1106.2	1066.7	1076.8	1086.1	1082.7	1076.8	1076.0
32.5°	2456.9	2331.7	1811.8	1251.5	1024.7	995.3	1001.2	1006.3	1001.2	986.9	986.9
35°	2660.1	2458.5	1770.6	1140.7	960.1	926.5	925.6	941.6	940.7	923.9	924.8
37.5°	2838.2	2558.5	1690.8	1039.0	904.6	876.1	879.4	889.5	894.5	871.9	869.4
40°	2993.6	2627.4	1578.3	952.5	860.1	861.8	852.6	836.6	830.7	820.6	819.0
42.5°	3139.7	2675.2	1459.0	880.3	837.4	856.8	825.7	787.9	771.9	781.2	787.0
45°	3283.4	2729.0	1343.9	820.6	808.9	841.6	798.8	756.8	738.3	742.5	748.4
47.5°	3458.9	2803.8	1205.3	756.8	765.2	813.9	782.0	736.6	708.9	692.1	687.1
50°	3689.9	2912.1	1025.6	687.9	719.0	783.7	767.7	707.2	677.0	643.4	635.0
52.5°	3978.9	3014.6	844.2	632.5	681.2	757.6	744.2	682.0	645.1	604.8	598.0
55°	4267.0	3028.9	687.9	584.6	638.4	722.4	715.6	661.9	609.8	577.0	570.3
57.5°	4468.5	2893.6	582.9	544.3	597.2	678.7	689.6	637.5	580.4	555.2	551.0
60°	4471.9	2570.3	519.1	517.4	566.1	640.9	662.7	609.0	561.9	545.1	541.8
62.5°	4116.6	2071.3	477.9	497.3	543.4	609.8	642.6	593.0	557.7	551.0	547.6
65°	3450.5	1530.4	445.2	478.8	522.5	583.8	625.8	588.0	556.0	553.5	551.0
67.5°	2547.6	1049.1	417.5	455.3	498.9	556.9	609.8	580.4	546.0	556.0	552.7
70°	1602.6	700.5	391.4	428.4	467.9	525.8	588.8	567.0	533.4	527.5	516.6
72.5°	904.6	506.5	360.3	393.9	427.5	484.7	560.2	544.3	504.8	481.3	470.4
73°	817.3	479.6	352.8	385.5	418.3	476.3	553.5	537.6	496.4	470.4	460.3
75°	598.0	392.3	318.3	351.1	379.7	437.6	521.6	504.0	459.5	428.4	421.7
77.5°	433.4	302.4	273.8	303.2	328.4	383.9	473.7	453.6	409.9	393.1	386.4
80°	312.5	229.3	226.8	255.3	277.2	333.5	422.5	401.5	359.5	409.1	398.1
82.5°	186.5	147.0	166.3	198.2	220.9	279.7	367.1	342.7	302.4	305.7	260.4
85°	89.0	83.2	103.3	130.2	146.2	191.5	305.7	286.4	241.9	198.2	194.0
87.5°	39.5	37.8	49.6	58.0	78.1	115.1	209.1	185.6	175.5	105.0	82.3
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)