

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: P197333

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197333
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-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 15976 lumens
Efficiency: N/A
Efficacy: 98.6 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

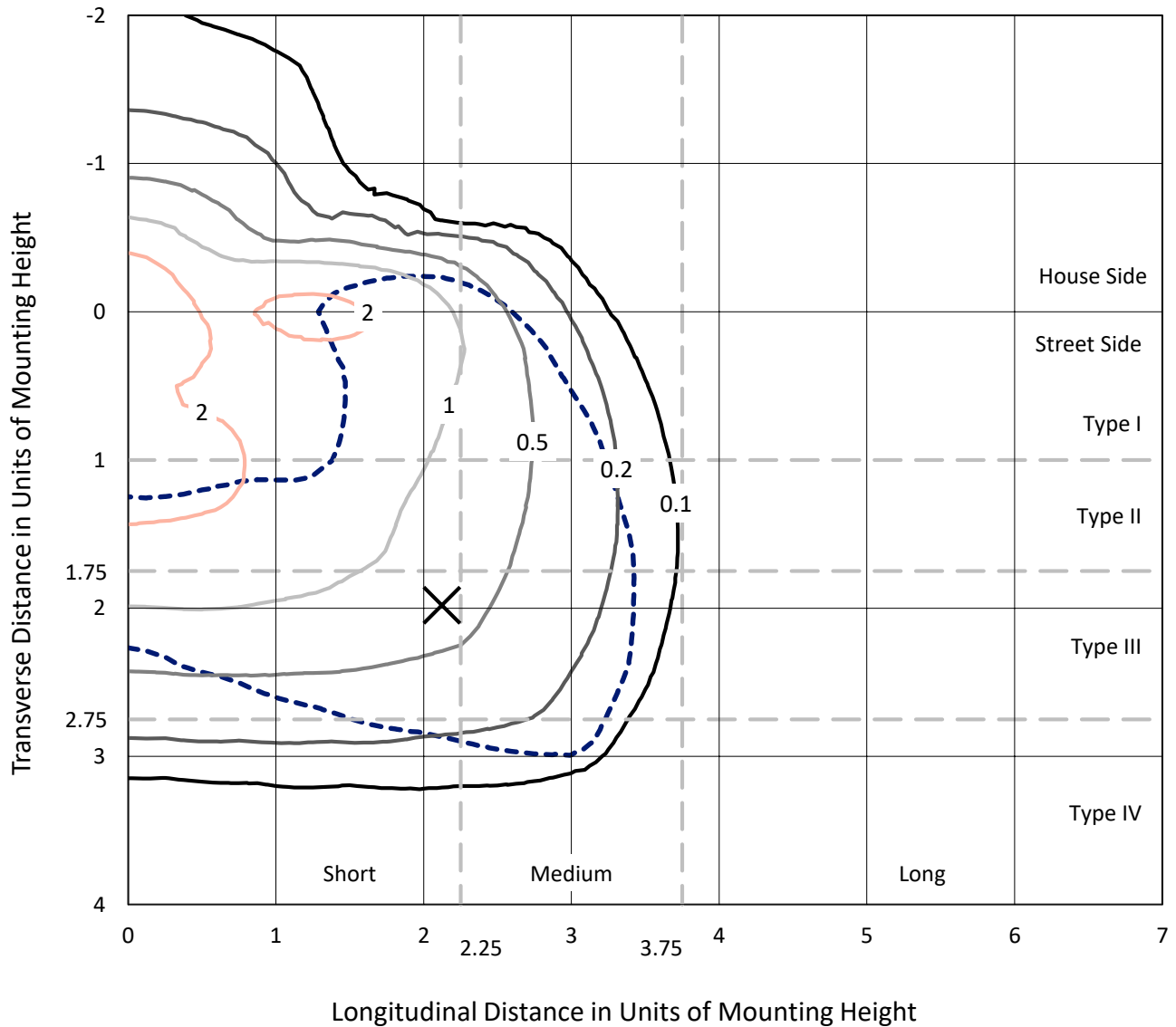


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Iso-Footcandle Lines of Horizontal Illumination

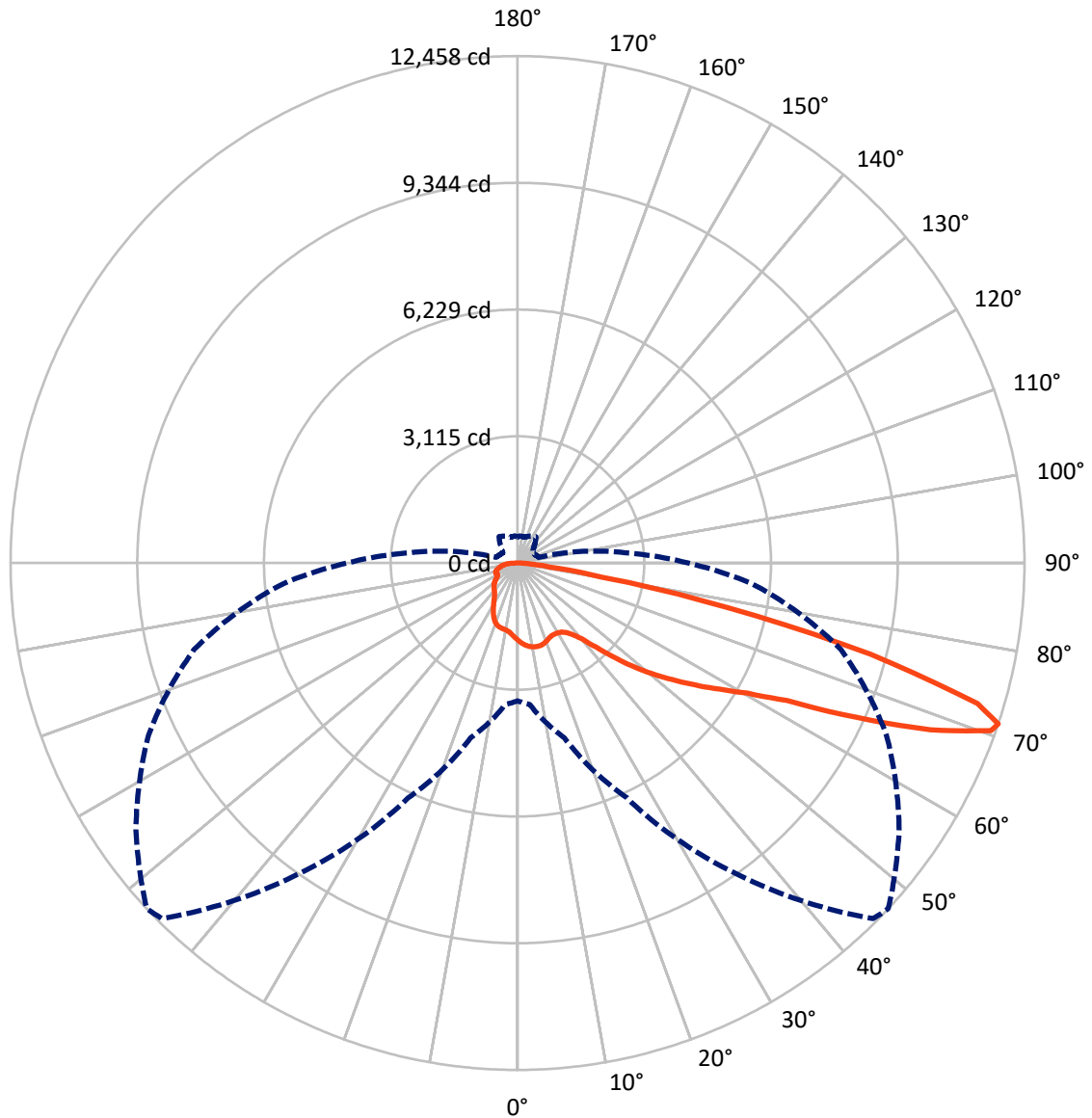
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 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	3423.9	0.0	3423.9
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	12552.1	0.0	12552.1
	% Fixture	78.6	0.0	78.6
Total	Lumens	15976.0	0.0	15976.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.4	1.1
10°-20°	530.7	3.3
20°-30°	788.6	4.9
30°-40°	1132.3	7.1
40°-50°	2007.5	12.6
50°-60°	3435.2	21.5
60°-70°	4876.8	30.5
70°-80°	2671.0	16.7
80°-90°	352.6	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°	15976.0	100.0
0°-180°	15976.0	100.0

Coefficient of Utilization



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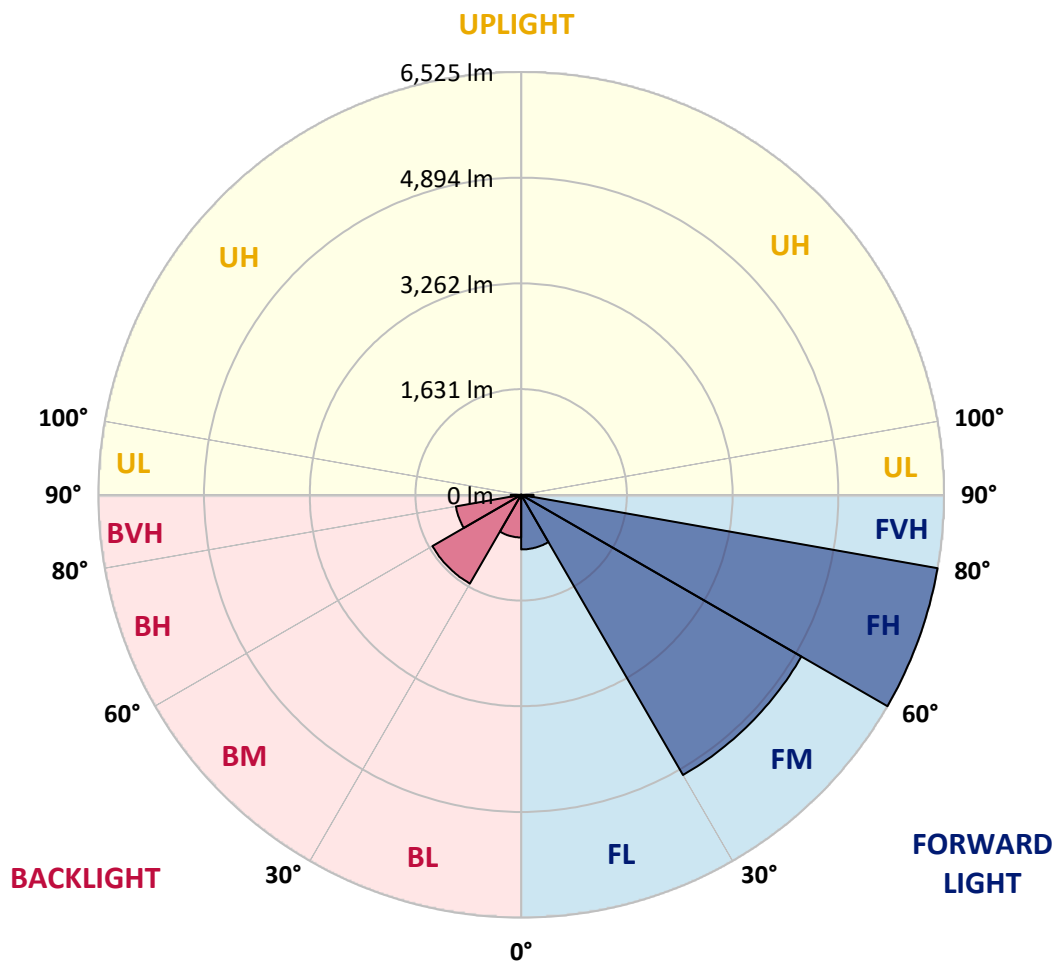
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	843.1	5.3			
FM (30°-60°)	4993.0	31.3			
FH (60°-80°)	6524.8	40.8			G3/7500
FVH (80°-90°)	191.2	1.2			G2/225
BL (0°-30°)	657.5	4.1	B2/1000		
BM (30°-60°)	1582.0	9.9	B2/2500		
BH (60°-80°)	1023.0	6.4	B3/2500		G3/2500
BVH (80°-90°)	161.3	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°	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8
2.5°	2015.8	2011.6	2013.7	2006.5	1988.9	1970.2	1970.2	1950.5	1929.8	1909.1	1886.4
5°	2141.0	2134.8	2129.7	2106.9	2072.7	2034.4	2028.2	1988.9	1946.4	1904.0	1862.5
7.5°	2245.6	2239.4	2223.9	2182.5	2132.8	2075.8	2068.6	2016.8	1960.9	1901.9	1843.9
10°	2320.2	2316.0	2286.0	2233.2	2175.2	2107.9	2095.5	2042.7	1976.4	1902.9	1829.4
12.5°	2361.6	2355.4	2319.1	2257.0	2188.7	2120.3	2107.9	2057.2	1981.6	1900.8	1814.9
15°	2345.0	2341.9	2307.7	2244.6	2176.2	2117.2	2106.9	2055.1	1978.5	1893.6	1801.5
17.5°	2274.6	2281.8	2254.9	2192.8	2136.9	2095.5	2084.1	2035.4	1963.0	1876.0	1780.8
20°	2177.3	2185.6	2172.1	2108.9	2076.9	2049.9	2043.7	2004.4	1937.1	1850.1	1755.9
22.5°	2073.7	2081.0	2082.0	2023.0	2012.7	2002.3	1997.1	1969.2	1914.3	1834.6	1739.3
25°	2002.3	2010.6	2012.7	1960.9	1967.1	1970.2	1969.2	1949.5	1910.2	1834.6	1741.4
27.5°	1983.7	1987.8	1985.7	1938.1	1949.5	1967.1	1968.1	1964.0	1926.7	1855.3	1770.4
30°	2047.9	2049.9	2024.1	1952.6	1964.0	1986.8	1987.8	1985.7	1961.9	1909.1	1835.6
32.5°	2325.3	2323.3	2234.2	2049.9	2010.6	2018.9	2022.0	2040.6	2042.7	1998.2	1929.8
35°	2747.7	2746.7	2643.2	2328.4	2143.1	2099.6	2103.8	2132.8	2158.6	2128.6	2089.3
37.5°	3212.6	3215.7	3152.6	2726.0	2428.9	2247.7	2243.5	2265.3	2311.9	2322.2	2327.4
40°	3728.2	3743.7	3740.6	3182.6	2829.5	2500.3	2458.9	2434.0	2524.1	2581.1	2654.6
42.5°	4317.3	4313.1	4315.2	3683.7	3287.1	2897.9	2821.2	2705.3	2809.9	2908.2	3069.7
45°	4823.6	4840.1	4852.5	4216.9	3799.6	3352.4	3274.7	3063.5	3157.7	3304.7	3551.2
47.5°	5332.9	5303.9	5326.7	4810.1	4370.1	3871.1	3770.6	3485.9	3573.9	3781.0	4155.8
50°	5926.2	5912.7	5809.2	5584.5	5059.6	4397.0	4265.5	3927.0	4055.4	4331.8	4902.2
52.5°	6458.3	6385.9	6305.1	6193.3	5737.7	4929.2	4762.5	4385.6	4621.7	4964.4	5828.9
55°	6653.0	6604.3	6701.6	6846.6	6455.2	5471.7	5285.3	4920.9	5260.5	5688.1	6919.1
57.5°	6860.0	6876.6	7096.1	7389.1	7134.4	6050.4	5848.5	5554.5	5961.4	6497.7	8137.6
60°	6963.6	7029.8	7467.8	8017.5	7780.4	6685.1	6491.5	6282.3	6738.9	7392.2	9353.1
62.5°	6981.2	7070.2	7690.4	8238.0	8669.8	7657.2	7433.6	7206.9	7710.0	8380.9	10233.1
65°	6658.1	6794.8	7670.7	8509.3	9480.4	9281.7	9139.8	8744.3	9010.4	9251.6	10383.2
67.5°	5708.8	5857.8	6911.8	8397.5	10130.6	10967.2	10940.2	10356.3	10014.7	9588.1	9270.3
70°	4189.9	4310.0	5322.6	7178.9	9846.9	12290.3	12337.9	11401.0	10295.2	8873.7	6893.2
71°	3388.6	3492.1	4446.7	6373.4	9294.1	12358.6	12458.0	11447.5	10003.3	8228.7	5770.9
72.5°	2108.9	2166.9	2952.7	4810.1	8003.0	11654.6	11822.3	10851.2	9083.9	6955.3	4079.2
75°	796.2	818.9	1095.4	2121.4	4777.0	8755.7	8958.6	8200.8	6381.7	3970.5	1707.2
77.5°	427.6	439.0	543.5	882.1	1914.3	5019.2	5280.1	4677.6	3061.4	1389.4	697.8
80°	286.8	294.0	375.8	522.8	880.0	1911.2	2128.6	1878.1	1146.1	793.1	497.0
82.5°	185.3	189.5	255.7	343.7	568.4	671.9	767.2	801.3	715.4	568.4	300.2
85°	122.2	125.3	168.8	219.5	352.0	331.3	339.6	444.2	487.6	374.8	153.2
87.5°	70.4	72.5	101.5	112.8	158.4	124.2	134.6	211.2	289.9	244.3	88.0
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°	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8	1899.8
2.5°	1876.0	1867.7	1849.1	1837.7	1832.5	1830.4	1828.4	1832.5	1832.5	1830.4	1826.3
5°	1841.8	1826.3	1795.2	1773.5	1762.1	1759.0	1763.2	1768.3	1771.4	1771.4	1768.3
7.5°	1817.0	1794.2	1752.8	1722.8	1705.2	1700.0	1711.4	1730.0	1742.4	1748.7	1749.7
10°	1796.3	1765.2	1719.7	1688.6	1674.1	1672.0	1686.5	1710.4	1736.2	1747.6	1749.7
12.5°	1777.6	1742.4	1692.7	1663.8	1653.4	1658.6	1678.3	1700.0	1730.0	1746.6	1747.6
15°	1760.0	1723.8	1671.0	1641.0	1638.9	1647.2	1665.8	1683.4	1706.2	1726.9	1726.9
17.5°	1739.3	1700.0	1645.1	1617.2	1617.2	1624.4	1636.8	1646.2	1660.7	1680.3	1679.3
20°	1714.5	1674.1	1618.2	1589.2	1583.0	1578.9	1578.9	1580.9	1593.4	1611.0	1614.1
22.5°	1695.9	1654.4	1595.4	1560.2	1532.3	1505.4	1494.0	1489.8	1501.2	1517.8	1521.9
25°	1695.9	1654.4	1588.2	1529.2	1460.8	1409.1	1387.3	1381.1	1392.5	1408.0	1414.2
27.5°	1723.8	1682.4	1604.7	1501.2	1375.9	1293.1	1267.2	1262.1	1272.4	1284.8	1291.0
30°	1789.0	1748.7	1652.4	1469.1	1281.7	1173.0	1144.0	1138.9	1144.0	1149.2	1156.5
32.5°	1897.7	1863.6	1730.0	1440.1	1186.5	1064.3	1029.1	1020.8	1022.9	1023.9	1030.1
35°	2074.8	2059.3	1833.6	1406.0	1096.4	975.3	939.0	922.5	921.4	926.6	933.9
37.5°	2346.0	2355.4	1967.1	1356.3	1021.9	912.1	875.9	859.3	851.0	861.4	869.7
40°	2729.1	2750.8	2121.4	1289.0	960.8	874.8	836.5	821.0	809.6	806.5	810.7
42.5°	3227.1	3220.9	2278.7	1203.0	894.5	850.0	809.6	793.1	774.4	750.6	745.4
45°	3817.2	3728.2	2410.2	1097.4	818.9	826.2	784.8	762.0	733.0	697.8	693.7
47.5°	4514.0	4268.6	2491.0	984.6	748.5	795.1	756.8	721.6	679.2	656.4	653.3
50°	5353.6	4901.2	2547.9	869.7	685.4	755.8	717.5	670.9	629.5	623.3	622.2
52.5°	6347.6	5647.7	2618.3	766.1	635.7	705.1	678.1	630.5	597.4	600.5	600.5
55°	7404.6	6420.0	2620.4	684.3	592.2	646.0	649.1	610.8	585.0	595.3	598.4
57.5°	8368.5	7095.1	2414.4	626.4	550.8	599.5	639.8	618.1	598.4	634.7	637.8
60°	9209.2	7614.8	1971.3	578.7	516.6	581.9	660.5	662.6	658.5	756.8	764.1
62.5°	9516.7	7620.0	1399.8	538.4	498.0	592.2	704.0	707.1	707.1	798.2	811.7
65°	9086.0	6985.3	931.8	514.6	485.6	615.0	739.2	725.8	693.7	756.8	742.3
67.5°	7568.2	5437.5	681.2	499.0	468.0	616.0	770.3	736.1	681.2	735.1	710.2
70°	5201.5	3460.0	570.5	484.5	447.3	589.1	786.8	733.0	662.6	685.4	652.3
71°	4186.8	2761.2	541.5	479.4	439.0	573.6	788.9	728.9	653.3	667.8	637.8
72.5°	2758.1	1701.0	506.3	468.0	426.6	546.6	783.7	719.5	640.9	641.9	622.2
75°	1088.1	705.1	455.5	442.1	391.4	503.2	761.0	699.9	617.1	596.3	588.1
77.5°	549.8	460.7	400.7	405.8	349.9	458.6	728.9	667.8	583.9	556.0	549.8
80°	401.7	349.9	342.7	352.0	303.3	415.2	688.5	624.3	541.5	570.5	558.0
82.5°	244.3	213.3	268.1	290.9	253.7	370.6	640.9	573.6	487.6	449.3	434.8
85°	116.0	125.3	193.6	214.3	187.4	296.1	586.0	517.7	425.5	367.5	373.8
87.5°	56.9	69.4	110.8	128.4	123.2	217.4	442.1	401.7	335.4	276.4	270.2
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)