

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: P197228

Luminaire Tested: **NAV-AF-02-D-UNV-T2-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197228  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-T2-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10672 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B2 - U0 - G2

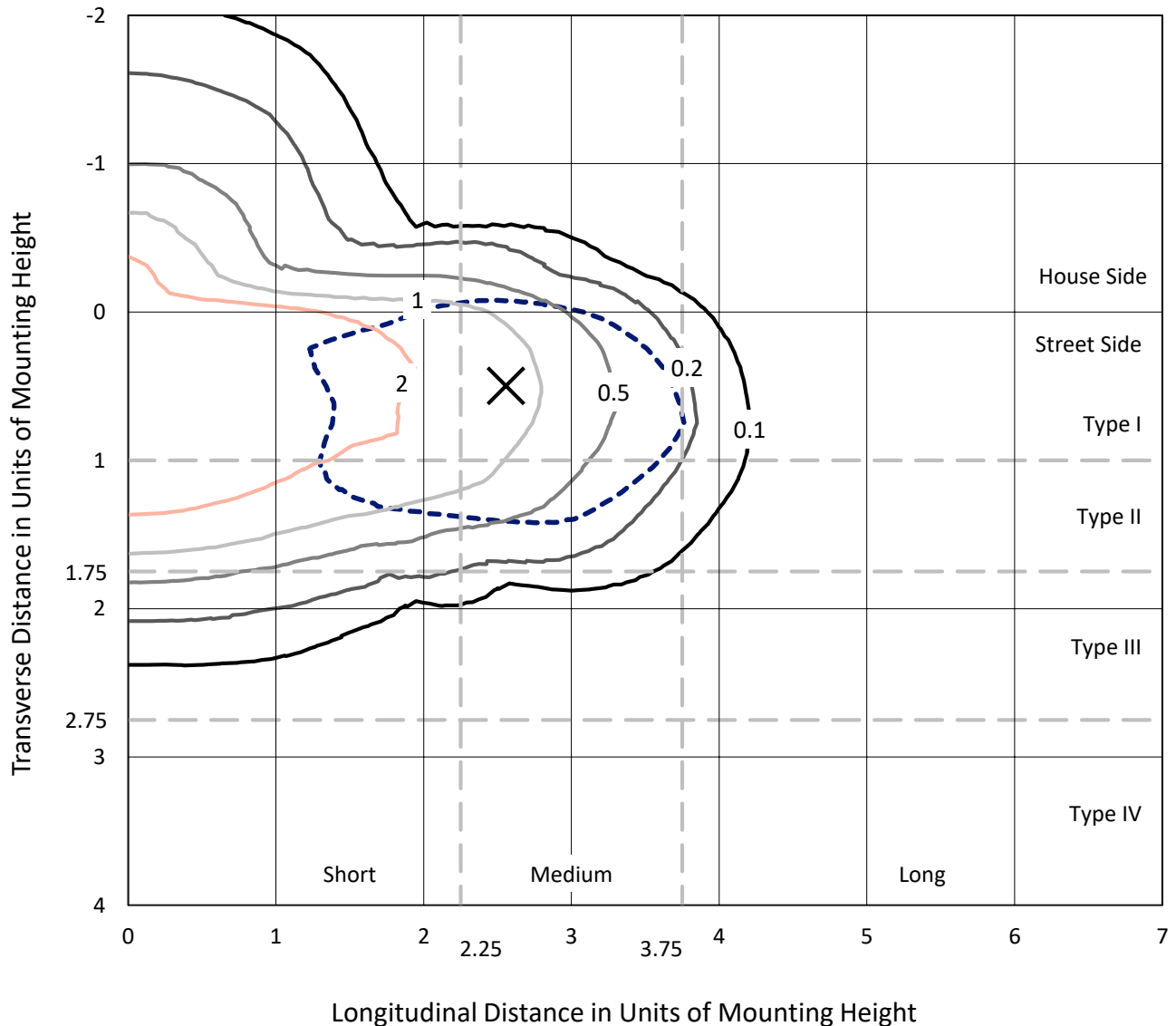
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

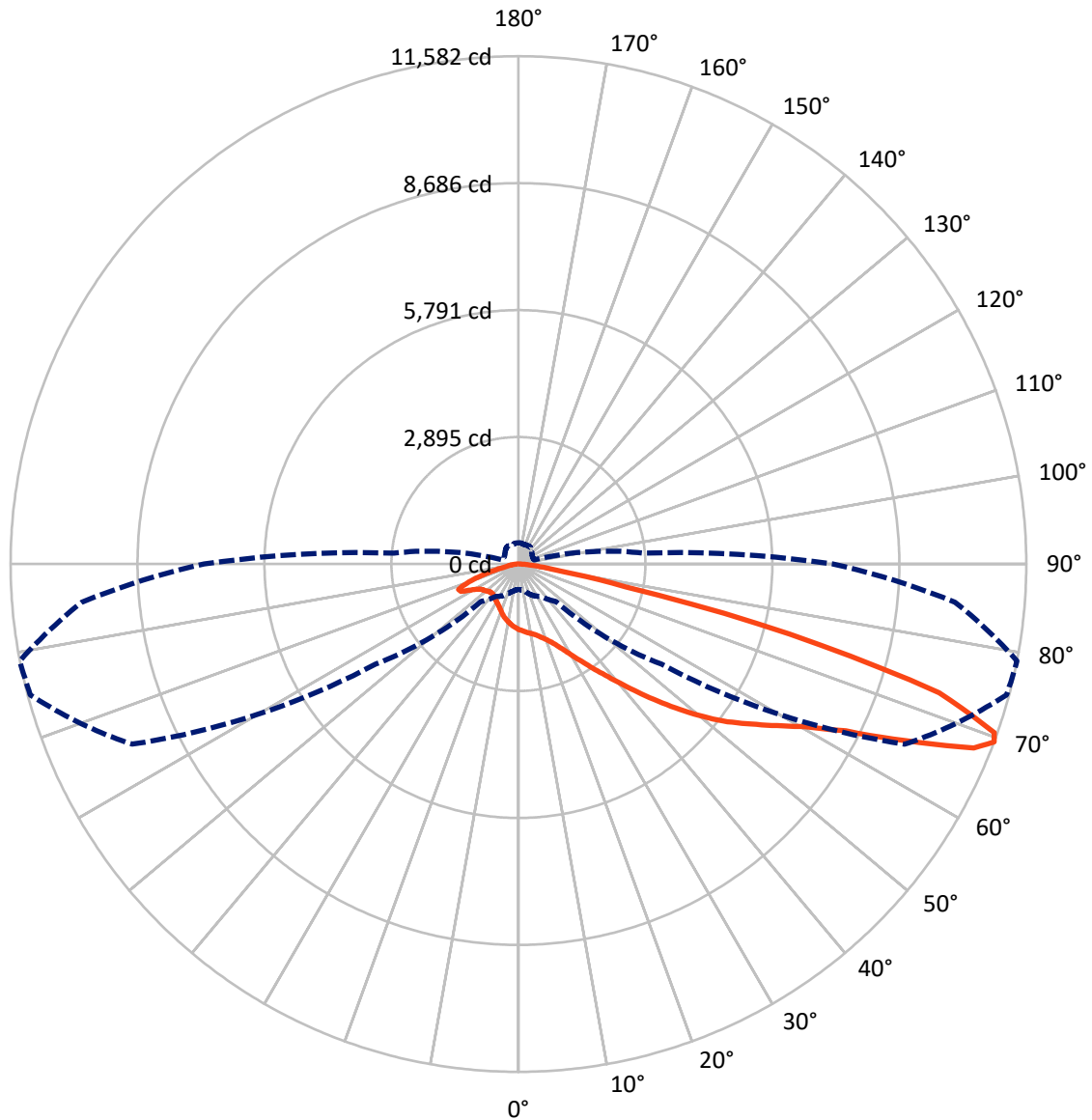
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2007.6	0.0	2007.6
	% Fixture	18.8	0.0	18.8
<b>Street Side</b>	Lumens	8664.4	0.0	8664.4
	% Fixture	81.2	0.0	81.2
<b>Total</b>	Lumens	10672.0	0.0	10672.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.8	1.3
10°-20°	398.0	3.7
20°-30°	657.7	6.2
30°-40°	1065.0	10.0
40°-50°	1701.4	15.9
50°-60°	2436.6	22.8
60°-70°	2714.7	25.4
70°-80°	1358.1	12.7
80°-90°	201.6	1.9
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°	10672.0	100.0
0°-180°	10672.0	100.0

**Coefficient of Utilization**



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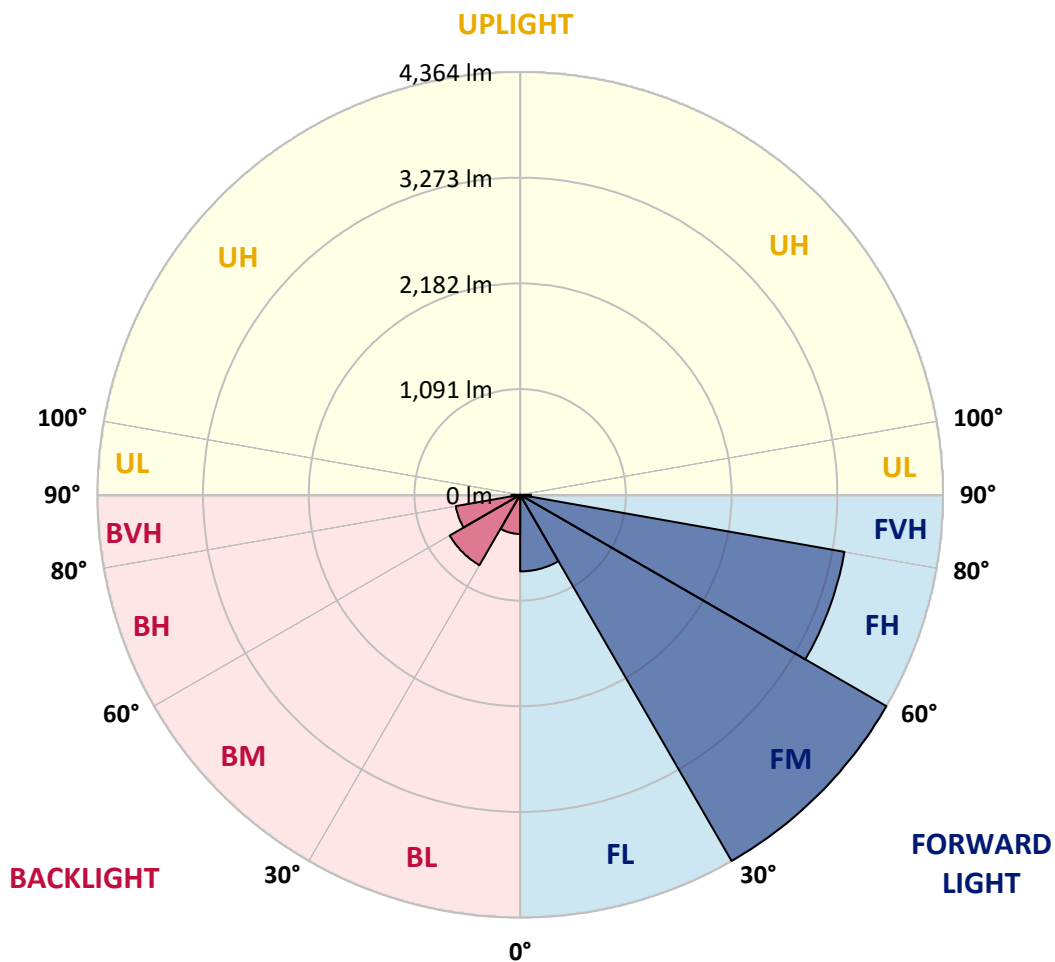
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	790.2	7.4			
FM (30°-60°)	4363.8	40.9			
FH (60°-80°)	3397.8	31.8			G2/5000
FVH (80°-90°)	112.6	1.1			G2/225
BL (0°-30°)	404.4	3.8	B1/500		
BM (30°-60°)	839.2	7.9	B1/1000		
BH (60°-80°)	675.0	6.3	B2/1000		G2/1000
BVH (80°-90°)	88.9	0.8			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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6
2.5°	1644.2	1640.7	1640.0	1629.6	1624.0	1612.1	1584.2	1555.6	1529.0	1515.1	1500.4
5°	1781.8	1774.8	1771.3	1753.9	1738.5	1712.0	1668.0	1622.6	1575.1	1550.7	1521.4
7.5°	1864.9	1865.6	1865.6	1851.6	1836.2	1804.1	1748.3	1686.1	1615.6	1583.5	1537.4
10°	1871.8	1872.5	1883.0	1886.5	1890.0	1873.2	1821.6	1743.4	1652.6	1610.7	1550.7
12.5°	1802.7	1807.6	1825.1	1850.2	1885.8	1904.0	1881.6	1804.8	1700.1	1649.1	1575.8
15°	1709.9	1714.8	1737.1	1775.5	1832.8	1893.5	1924.9	1875.3	1762.2	1702.2	1612.8
17.5°	1664.5	1670.1	1685.4	1716.2	1772.0	1853.7	1948.0	1950.7	1835.5	1766.4	1656.8
20°	1642.8	1647.0	1666.6	1691.7	1734.3	1812.5	1950.0	2030.3	1922.8	1842.5	1710.6
22.5°	1692.4	1693.8	1703.6	1717.5	1746.2	1806.2	1948.6	2112.7	2031.7	1938.2	1779.7
25°	1837.6	1828.6	1821.6	1804.1	1811.1	1853.7	1971.0	2200.7	2171.4	2063.9	1871.8
27.5°	2009.4	2008.0	1989.8	1949.3	1923.5	1950.7	2034.5	2299.1	2342.4	2223.7	1992.6
30°	2200.7	2201.4	2182.5	2133.0	2080.6	2083.4	2135.8	2412.9	2547.0	2416.4	2141.4
32.5°	2401.1	2413.6	2378.7	2329.2	2265.6	2245.4	2281.0	2550.5	2783.7	2644.0	2313.8
35°	2640.6	2642.7	2604.3	2531.6	2468.1	2436.0	2468.8	2722.2	3056.7	2911.5	2524.0
37.5°	2889.1	2890.5	2850.7	2757.9	2677.6	2656.6	2692.9	2931.0	3345.7	3215.9	2771.1
40°	3092.3	3106.9	3075.5	2988.3	2907.3	2894.7	2947.1	3181.0	3715.1	3576.1	3065.1
42.5°	3322.7	3339.4	3301.7	3211.0	3146.7	3142.6	3224.2	3465.8	4082.3	3993.0	3398.1
45°	3582.4	3606.2	3553.8	3451.9	3397.4	3489.6	3494.4	3781.4	4505.4	4459.3	3773.0
47.5°	3865.9	3885.4	3842.8	3733.2	3673.9	3807.2	3759.1	4122.8	4962.7	4959.2	4178.7
50°	4084.4	4106.1	4110.2	4062.1	3999.9	4016.7	4049.5	4481.7	5418.7	5473.1	4598.3
52.5°	4044.6	4065.6	4159.8	4286.2	4386.0	4342.7	4382.5	4862.9	5859.2	5974.4	4997.0
55°	3723.5	3734.6	3911.3	4211.5	4636.7	4843.3	4846.1	5277.6	6278.1	6439.4	5375.4
57.5°	3144.7	3146.0	3375.8	3818.4	4490.8	5168.0	5577.8	5798.5	6715.2	6953.3	5844.6
60°	2225.1	2230.7	2498.1	3076.9	3967.8	5128.9	6364.7	6730.6	7221.4	7530.7	6449.2
62.5°	1321.0	1333.5	1535.3	1999.6	2947.1	4626.2	6829.7	8388.8	7967.1	8377.6	7416.9
65°	859.5	869.9	990.7	1223.9	1741.3	3366.0	6676.8	9994.6	9378.1	9709.7	8807.7
67.5°	661.9	670.3	765.2	906.3	1068.2	1819.5	5338.4	10331.1	11095.6	11199.0	9981.3
69°	581.6	588.6	658.4	793.8	899.3	1204.4	3978.3	9720.2	11525.0	11581.6	9996.0
70°	539.0	544.6	610.2	727.5	826.0	961.4	3044.8	9010.8	11367.9	11512.5	9707.6
72.5°	444.0	448.9	495.7	585.8	675.2	684.9	1348.9	6579.7	9572.2	10034.4	8214.9
75°	370.7	373.5	404.3	469.9	546.7	545.3	689.1	3726.9	5841.1	6391.9	5072.4
77.5°	309.3	311.4	331.6	372.1	431.5	429.4	485.2	1608.6	2579.1	2488.4	1746.2
80°	273.0	274.4	284.9	295.3	333.0	330.9	359.6	738.7	1049.4	969.8	660.5
82.5°	207.4	210.2	263.2	268.1	258.3	249.3	250.7	430.1	537.6	489.4	354.7
85°	117.3	118.0	169.0	197.6	224.8	169.0	162.7	222.0	265.3	232.5	155.0
87.5°	52.4	54.5	81.0	93.6	121.5	99.1	92.9	94.3	114.5	95.0	61.4
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°	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6	1497.6
2.5°	1486.4	1474.6	1446.7	1418.0	1389.4	1371.2	1352.4	1334.9	1328.0	1327.3	1314.0
5°	1492.7	1464.8	1401.3	1331.4	1265.1	1213.5	1170.2	1142.2	1115.0	1110.1	1098.3
7.5°	1494.8	1449.4	1346.1	1234.4	1133.2	1061.9	1018.7	999.8	986.5	983.1	978.9
10°	1494.1	1429.9	1284.7	1131.8	1016.6	962.8	946.7	950.9	956.5	959.3	959.3
12.5°	1505.3	1420.8	1223.2	1035.4	941.2	915.3	927.9	949.5	966.3	973.3	974.7
15°	1525.5	1415.2	1155.5	951.6	888.1	894.4	925.1	956.5	980.3	990.7	993.5
17.5°	1550.7	1407.6	1077.3	882.5	857.4	879.0	918.8	958.6	987.2	1000.5	1002.6
20°	1578.6	1396.4	996.3	830.8	830.1	857.4	897.2	941.9	972.6	987.2	986.5
22.5°	1616.3	1385.9	920.9	793.1	800.1	825.3	858.1	898.6	927.2	940.5	937.7
25°	1666.6	1376.1	853.2	759.6	765.9	782.7	805.7	836.4	856.7	863.7	858.8
27.5°	1734.3	1368.5	800.1	728.9	728.2	735.9	749.9	766.6	776.4	774.3	766.6
30°	1817.4	1360.8	761.0	701.7	691.9	691.2	697.5	707.3	713.6	701.0	694.7
32.5°	1910.2	1347.5	726.1	677.9	660.5	654.2	657.0	670.3	696.1	683.5	678.6
35°	2019.9	1332.1	691.2	652.1	638.8	627.0	629.1	657.7	735.9	726.8	721.9
37.5°	2151.8	1318.2	659.1	624.2	623.5	608.8	607.4	641.6	746.4	726.8	722.6
40°	2310.3	1315.4	630.5	593.5	604.6	599.0	594.2	615.1	688.4	648.6	640.9
42.5°	2501.6	1328.0	609.5	564.1	583.0	596.3	587.2	592.1	622.1	586.5	580.2
45°	2725.0	1362.2	594.2	538.3	559.9	594.2	583.7	579.5	584.4	564.8	560.6
47.5°	2985.5	1422.9	583.7	516.7	538.3	588.6	582.3	573.9	571.8	560.6	557.9
50°	3264.0	1504.6	576.7	497.1	518.8	578.8	581.6	569.7	566.2	561.3	559.9
52.5°	3540.5	1593.3	568.3	480.4	502.7	566.9	582.3	565.5	560.6	557.9	556.5
55°	3815.6	1685.4	553.0	465.7	490.8	553.0	581.6	559.9	554.4	554.4	554.4
57.5°	4172.4	1825.8	532.7	453.8	475.5	534.8	572.5	553.7	546.0	546.7	547.4
60°	4687.7	2061.1	510.4	440.6	455.2	513.9	558.6	542.5	533.4	536.2	536.9
62.5°	5548.5	2472.3	479.7	421.7	434.3	491.5	540.4	527.1	518.8	523.6	524.3
65°	6696.3	2970.1	439.2	398.0	412.6	466.4	517.4	509.0	499.9	511.8	511.1
67.5°	7396.6	3116.0	396.6	372.8	391.7	439.9	488.7	485.2	479.0	499.9	498.5
69°	7166.9	2852.1	372.1	356.8	377.0	421.7	470.6	469.2	464.3	484.5	483.1
70°	6810.2	2605.6	356.8	346.3	369.3	410.5	458.7	458.7	453.8	471.3	467.8
72.5°	5470.3	1932.6	321.2	319.8	342.8	379.8	426.6	430.1	427.3	433.6	430.1
75°	3211.7	1164.6	286.3	290.4	310.7	347.0	391.0	393.8	391.0	390.3	391.0
77.5°	1113.6	522.2	252.7	259.0	276.5	313.5	351.9	357.5	353.3	348.4	349.8
80°	435.7	303.7	216.4	225.5	240.2	275.8	312.8	316.3	310.0	309.3	303.7
82.5°	261.8	185.0	168.3	182.9	201.1	239.5	270.2	268.8	263.9	292.5	256.2
85°	113.8	102.6	122.9	137.5	146.6	179.4	228.3	222.0	210.2	185.0	180.8
87.5°	46.1	53.1	67.7	81.7	88.0	115.9	156.4	150.8	152.9	125.7	125.0
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)