

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: P196501

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196501
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-AFL-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6053 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

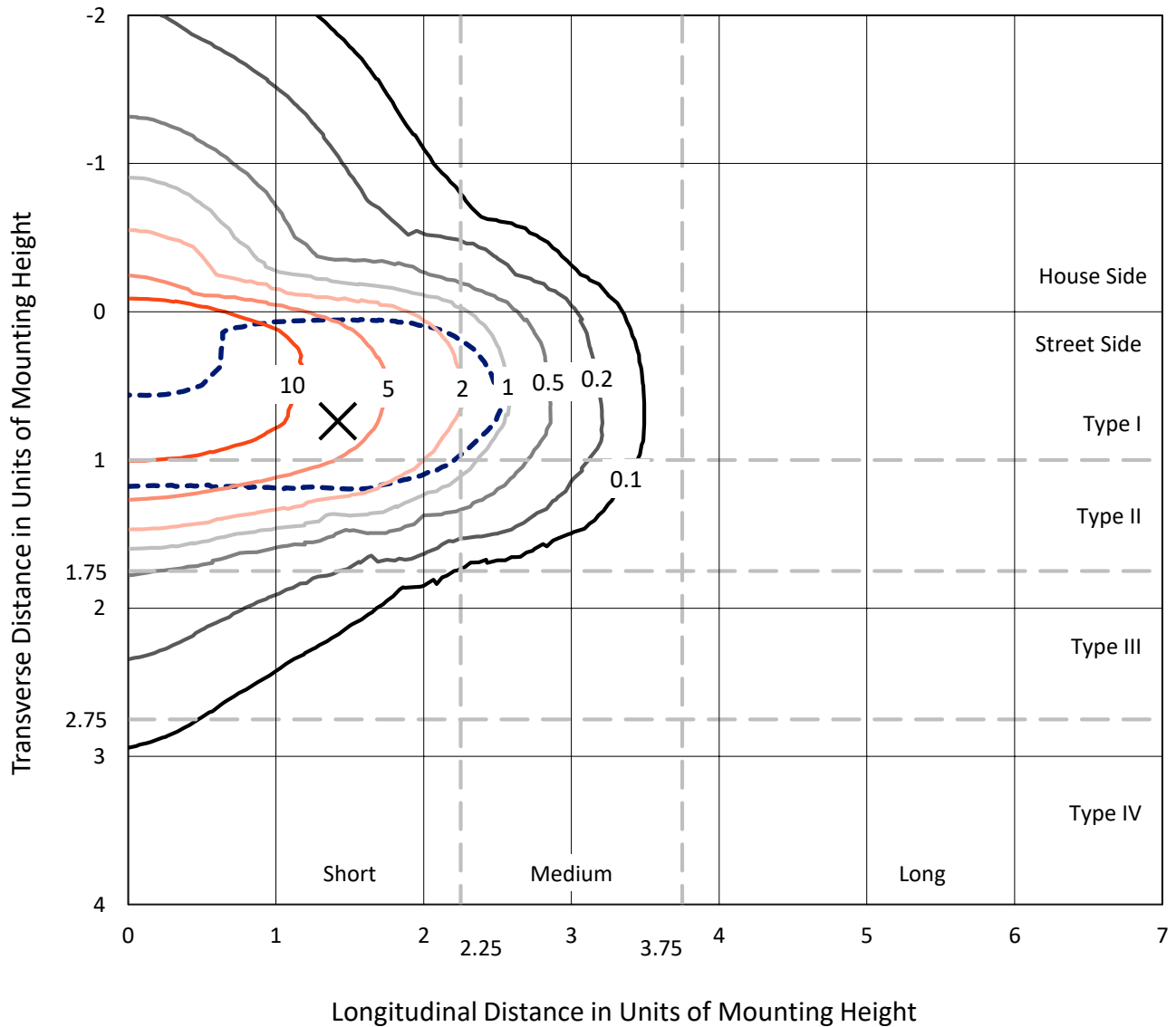
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

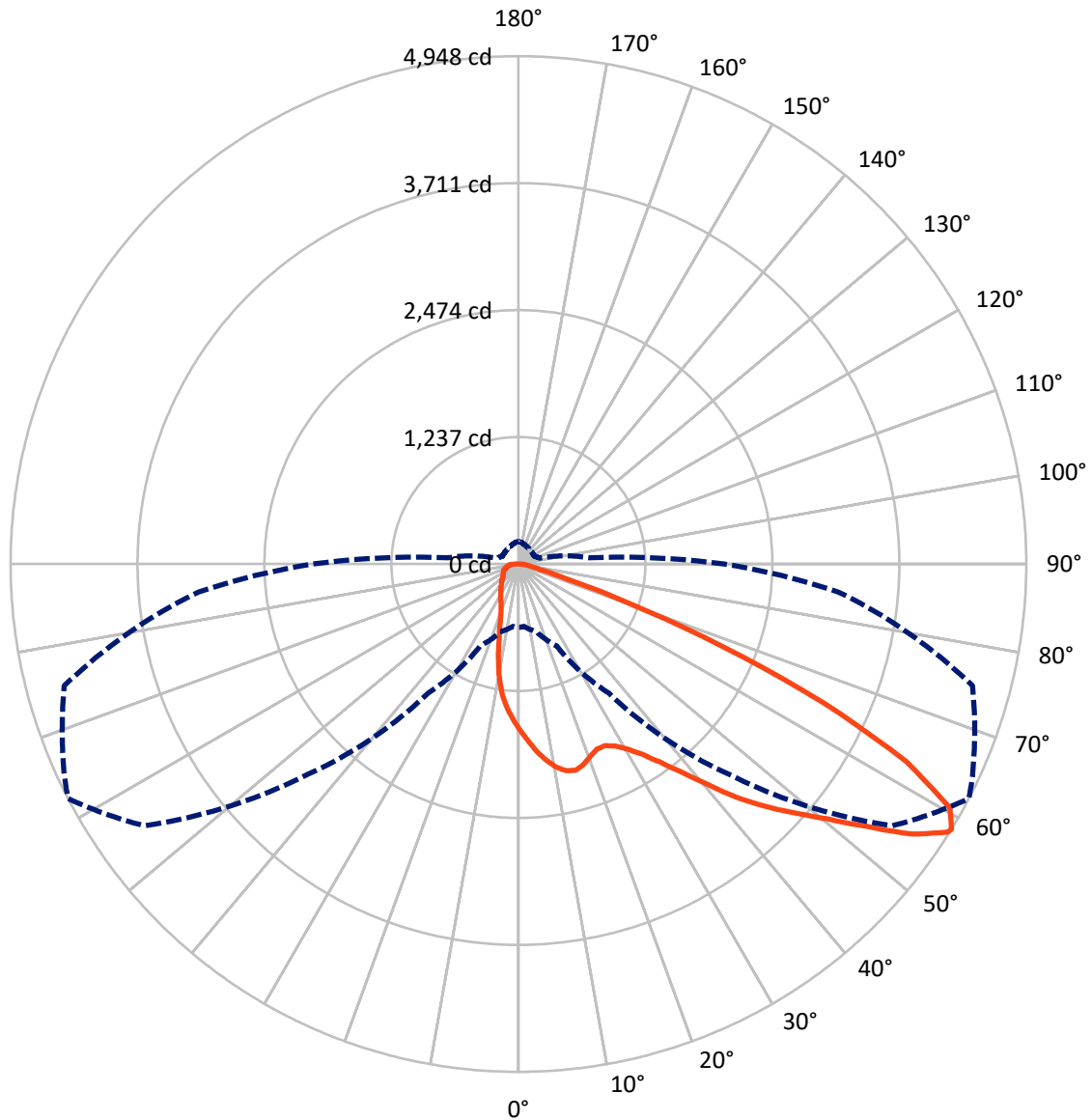
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	929.4	0.0	929.4
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	5123.6	0.0	5123.6
	% Fixture	84.6	0.0	84.6
Total	Lumens	6053.0	0.0	6053.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.5	2.4
10°-20°	364.6	6.0
20°-30°	590.8	9.8
30°-40°	943.3	15.6
40°-50°	1372.0	22.7
50°-60°	1435.7	23.7
60°-70°	875.3	14.5
70°-80°	244.8	4.0
80°-90°	82.0	1.4
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°	6053.0	100.0
0°-180°	6053.0	100.0



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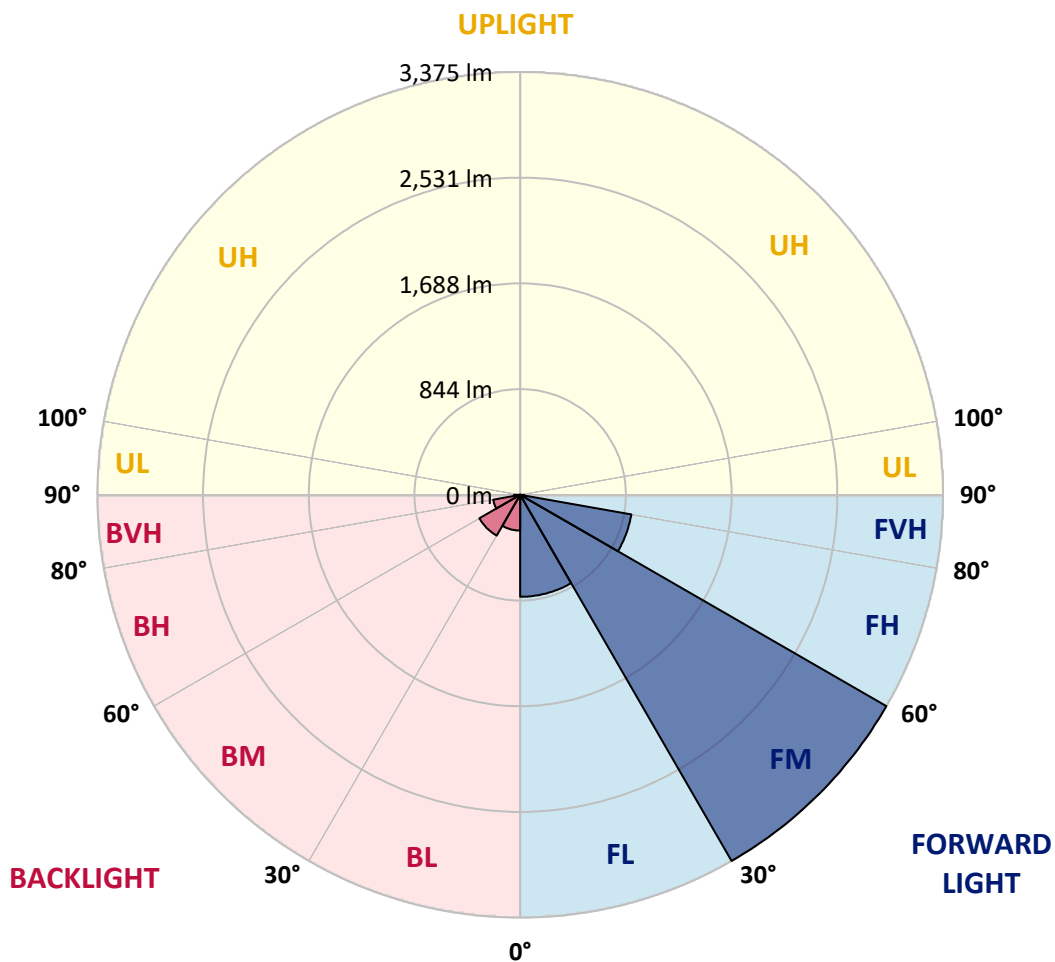
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	814.1	13.5			
FM	(30°-60°)	3375.2	55.8			
FH	(60°-80°)	901.2	14.9			G1/1800
FVH	(80°-90°)	33.0	0.5			G1/100
BL	(0°-30°)	285.7	4.7	B1/500		
BM	(30°-60°)	375.8	6.2	B1/1000		
BH	(60°-80°)	218.8	3.6	B1/500		G1/500
BVH	(80°-90°)	49.0	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1
2.5°	1834.4	1833.3	1817.7	1807.4	1795.4	1767.4	1739.4	1718.6	1708.0	1667.6	1628.2
5°	1986.2	1981.5	1972.7	1961.9	1946.0	1910.8	1866.5	1828.4	1813.1	1741.3	1669.1
7.5°	1905.9	1913.0	1939.9	1970.2	2001.9	2004.3	1972.7	1927.5	1910.8	1814.7	1708.9
10°	1683.8	1680.9	1714.5	1773.5	1878.2	1982.0	2033.8	2011.5	1994.0	1884.2	1748.4
12.5°	1616.5	1615.7	1621.4	1636.4	1702.4	1844.7	2018.2	2066.6	2060.6	1958.0	1790.9
15°	1636.9	1637.7	1637.2	1639.2	1657.4	1725.1	1931.6	2085.2	2104.2	2031.1	1834.0
17.5°	1702.4	1699.7	1691.4	1682.3	1685.0	1709.2	1838.2	2053.4	2110.2	2096.1	1870.3
20°	1803.4	1803.4	1781.0	1755.7	1739.1	1744.4	1799.2	1998.9	2082.2	2151.5	1897.5
22.5°	1930.1	1932.0	1899.0	1852.9	1815.2	1800.7	1821.6	1958.5	2048.2	2202.4	1921.8
25°	2087.5	2087.1	2039.0	1972.7	1913.0	1878.6	1878.2	1960.3	2037.5	2262.2	1947.1
27.5°	2282.3	2264.5	2208.5	2114.2	2029.9	1977.4	1953.5	2007.9	2059.9	2335.6	1981.2
30°	2502.0	2483.9	2410.6	2289.5	2175.3	2098.5	2059.1	2090.4	2128.0	2429.1	2032.7
32.5°	2719.6	2723.8	2637.5	2501.0	2354.2	2246.0	2187.7	2207.0	2233.2	2543.3	2102.2
35°	3038.2	3037.7	2925.0	2754.4	2580.0	2430.3	2356.4	2366.7	2390.5	2704.5	2199.8
37.5°	3275.7	3271.9	3199.3	3048.4	2852.0	2672.3	2565.6	2567.1	2587.6	2906.9	2328.5
40°	3299.9	3299.2	3298.7	3277.2	3143.0	2973.5	2839.8	2812.4	2820.6	3121.7	2465.0
42.5°	3115.0	3142.6	3221.9	3343.8	3381.2	3292.3	3166.0	3104.4	3086.1	3368.4	2609.5
45°	2851.2	2865.3	3004.4	3278.4	3501.2	3592.0	3497.1	3366.9	3335.9	3608.3	2727.2
47.5°	2728.6	2722.6	2803.1	3101.7	3489.4	3830.3	3837.0	3623.7	3571.1	3815.2	2827.4
50°	2465.8	2457.8	2559.6	2841.9	3361.6	3948.7	4186.3	3903.8	3806.5	4011.9	2918.2
52.5°	1941.9	1934.2	2070.8	2434.4	3075.5	3904.5	4480.6	4247.2	4081.5	4201.4	3003.0
55°	1263.5	1264.2	1394.3	1769.4	2488.8	3646.4	4618.7	4644.1	4458.4	4390.9	3071.4
57.5°	695.7	689.3	782.0	1012.3	1712.2	3060.5	4503.6	4930.0	4833.2	4553.6	3121.0
58°	618.5	611.0	682.5	881.0	1535.1	2895.2	4445.8	4948.2	4881.2	4580.4	3128.2
60°	440.8	427.9	417.0	496.7	884.5	2087.5	4060.0	4830.6	4895.3	4634.2	3121.3
62.5°	371.5	356.7	317.4	314.3	416.5	1021.0	3210.7	4242.3	4423.5	4510.4	3011.6
65°	345.0	330.3	278.4	259.9	282.6	440.8	1985.4	3275.7	3517.8	4080.4	2735.6
67.5°	326.1	308.6	253.1	228.9	233.4	263.7	842.5	2142.3	2423.1	3181.8	2194.5
70°	309.1	289.7	233.0	205.1	201.2	200.5	329.1	1118.6	1389.1	2082.2	1470.1
72.5°	289.7	270.9	215.2	185.4	177.0	162.7	197.9	462.2	633.7	1020.7	673.8
75°	261.7	246.3	195.6	169.2	154.7	131.9	146.0	221.7	273.1	390.8	312.8
77.5°	230.4	217.9	175.6	155.4	136.1	107.8	111.6	150.2	168.7	220.1	181.2
80°	163.1	167.6	153.2	136.9	119.9	87.0	85.9	110.2	121.1	147.9	121.9
82.5°	112.3	115.7	124.9	108.1	96.8	67.7	63.2	76.4	82.1	89.3	59.0
85°	80.2	77.9	86.7	77.6	71.1	43.1	40.4	48.4	51.8	54.5	28.4
87.5°	48.8	48.4	49.9	40.1	37.0	22.0	20.1	23.1	24.6	23.8	13.6
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°	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1	1616.1
2.5°	1613.4	1594.9	1554.4	1521.9	1486.7	1459.8	1433.1	1417.8	1401.2	1391.8	1390.7
5°	1631.2	1593.4	1507.1	1426.9	1344.4	1270.3	1197.7	1144.0	1100.1	1075.1	1073.6
7.5°	1650.9	1591.5	1458.4	1319.6	1172.7	1026.7	897.7	806.6	747.9	720.7	718.8
10°	1665.9	1583.6	1398.9	1183.0	950.3	757.3	640.0	586.4	568.5	564.0	563.3
12.5°	1684.2	1577.9	1324.0	1007.8	726.3	576.6	541.0	537.5	541.4	543.6	544.0
15°	1701.1	1566.9	1223.0	813.8	568.5	515.2	516.0	523.3	530.8	534.2	534.5
17.5°	1709.2	1540.0	1090.3	641.3	497.4	487.7	496.4	505.8	512.7	515.2	515.2
20°	1709.2	1497.0	936.3	519.4	460.4	462.2	472.9	480.0	481.7	479.3	478.1
22.5°	1701.9	1443.7	786.4	453.2	430.2	437.4	445.7	440.8	423.0	409.2	406.7
25°	1695.6	1380.4	642.3	412.7	403.6	413.1	409.7	376.1	348.7	334.8	332.4
27.5°	1685.0	1304.0	522.0	379.4	377.9	385.4	351.9	319.2	305.7	298.1	296.6
30°	1682.3	1221.2	436.9	349.9	352.6	342.0	303.4	292.9	289.7	285.6	283.7
32.5°	1691.0	1138.3	383.6	325.7	328.4	293.6	278.8	280.4	279.9	274.7	272.7
35°	1714.9	1057.7	349.5	303.7	296.2	262.9	264.9	269.4	269.4	262.9	260.7
37.5°	1756.5	982.8	328.0	285.2	259.2	247.0	252.0	258.0	258.0	253.5	251.7
40°	1800.7	909.8	311.7	270.5	235.7	236.1	241.0	245.5	247.4	248.1	246.6
42.5°	1840.8	834.2	294.4	254.6	225.1	227.7	230.0	233.4	241.4	246.6	246.0
45°	1864.3	758.1	275.5	234.9	217.9	219.1	218.3	224.3	233.9	241.7	241.7
47.5°	1885.9	695.7	259.9	215.2	210.8	210.8	208.4	214.4	223.2	232.6	233.4
50°	1906.2	655.2	248.9	200.2	201.6	200.5	199.7	205.4	217.1	228.5	230.4
52.5°	1927.2	641.6	239.1	189.1	192.2	190.6	191.4	199.4	212.6	224.3	226.2
55°	1956.2	650.3	228.9	181.6	183.1	182.7	185.7	194.8	206.5	218.3	219.1
57.5°	1992.2	682.1	220.1	175.9	174.4	176.7	181.6	190.3	201.6	215.7	216.8
58°	1999.3	689.7	218.6	174.4	172.5	175.9	180.9	189.1	200.9	215.7	216.8
60°	2010.3	716.5	214.9	171.3	166.1	172.1	178.2	186.5	199.4	217.5	219.8
62.5°	1957.4	721.7	213.7	167.9	159.3	166.8	174.0	183.4	197.9	224.0	228.9
65°	1773.9	667.3	205.9	162.2	153.6	162.7	170.2	181.2	202.3	243.2	245.5
67.5°	1423.9	554.2	186.5	153.6	147.2	157.8	167.1	181.2	204.4	246.3	247.8
70°	979.1	416.5	162.2	144.1	139.7	151.7	166.1	185.4	197.9	233.0	228.5
72.5°	511.5	289.7	142.2	133.2	130.6	146.4	177.0	181.2	190.3	217.5	212.9
75°	257.7	197.1	125.2	120.7	120.3	144.5	198.2	174.4	182.4	204.7	214.4
77.5°	152.1	154.4	111.6	108.9	110.8	141.1	198.7	167.6	173.2	188.4	199.0
80°	104.1	127.5	100.9	100.3	101.7	129.8	183.1	159.3	162.7	178.2	189.6
82.5°	58.7	70.4	88.5	93.4	92.7	106.3	158.1	144.9	149.0	210.8	222.8
85°	28.4	42.4	74.2	87.4	79.1	70.7	128.6	128.6	129.8	151.0	152.9
87.5°	10.6	18.9	49.9	69.3	55.2	42.4	87.4	91.1	101.4	104.5	106.6
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)