

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: P196300

Luminaire Tested: **NAV-AF-04-D-UNV-T3-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196300  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)  
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-T3-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16448 lumens  
Efficiency: N/A  
Efficacy: 127.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

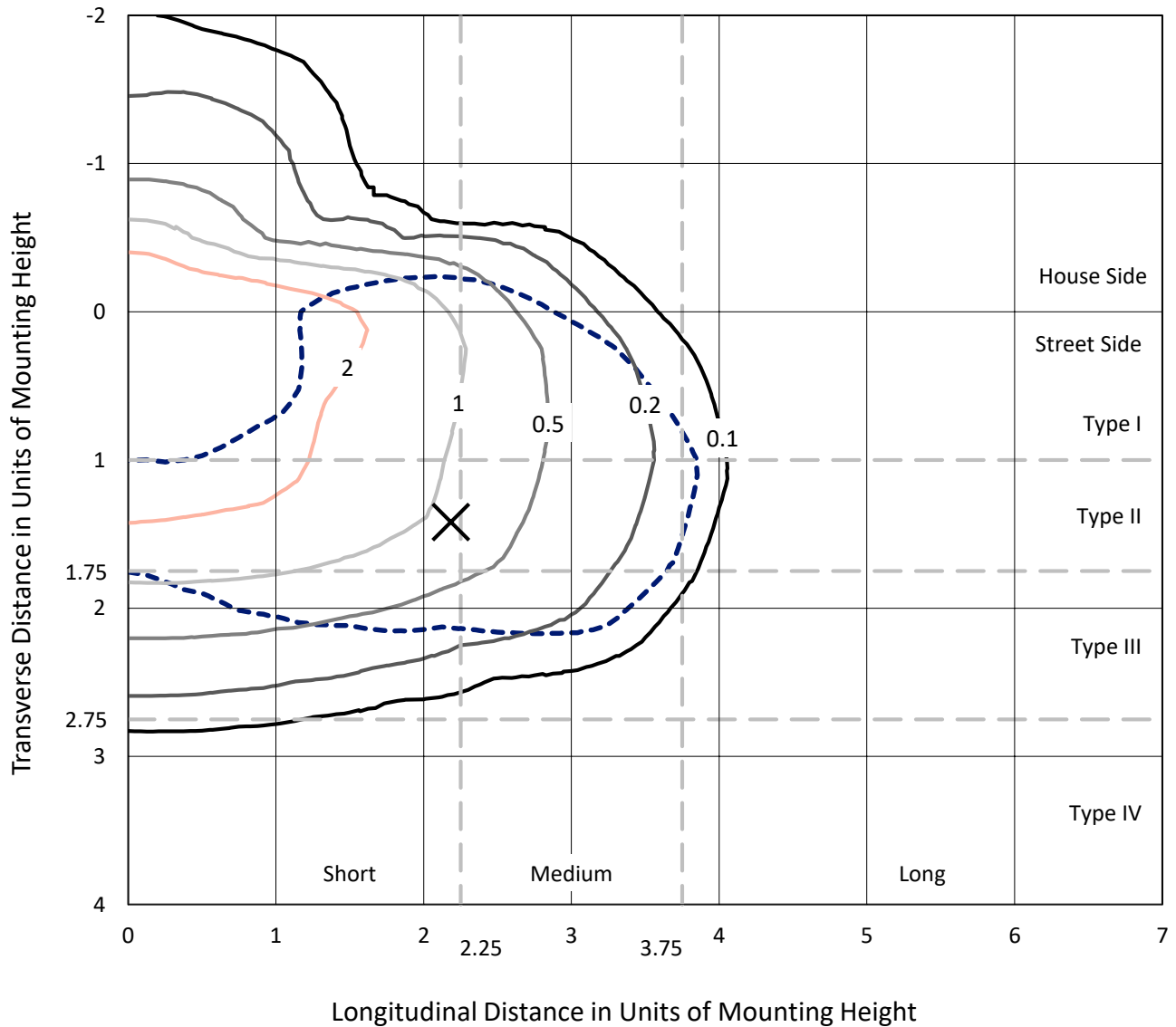
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

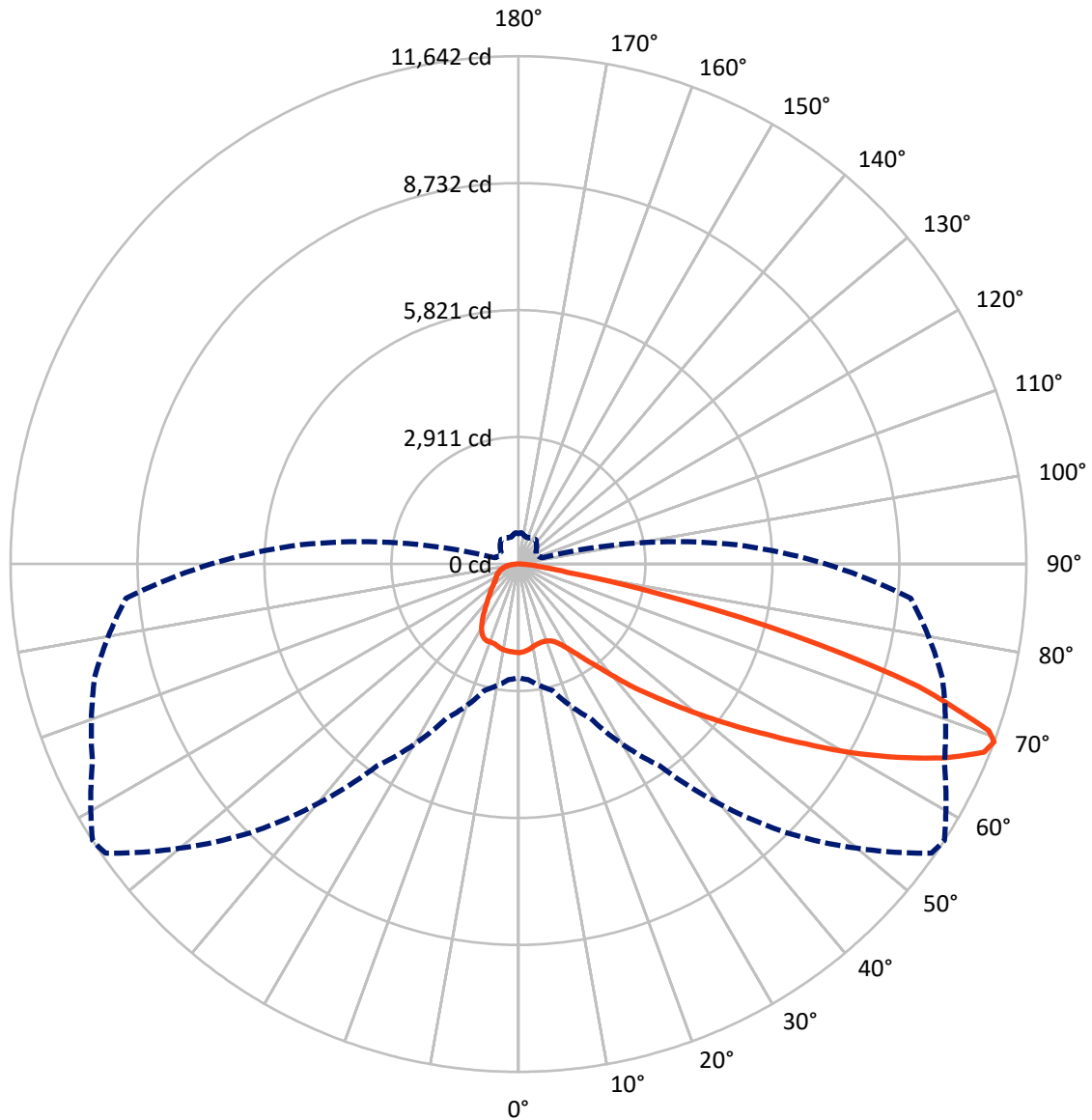
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.3 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3629.5	0.0	3629.5
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	12818.5	0.0	12818.5
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	16448.0	0.0	16448.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.3	1.2
10°-20°	541.0	3.3
20°-30°	899.9	5.5
30°-40°	1469.5	8.9
40°-50°	2480.2	15.1
50°-60°	3858.1	23.5
60°-70°	4595.8	27.9
70°-80°	2141.0	13.0
80°-90°	272.3	1.7
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°	16448.0	100.0
0°-180°	16448.0	100.0



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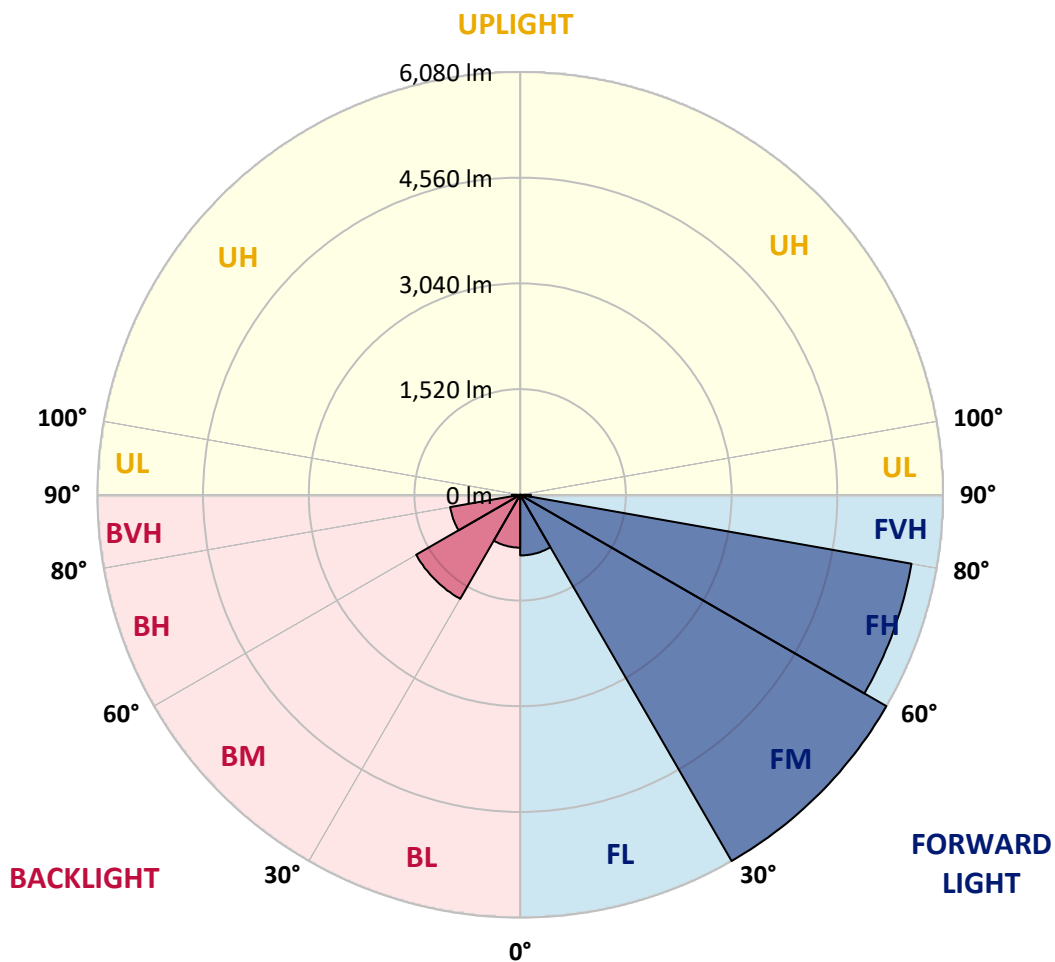
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	871.1	5.3			
FM	(30°-60°)	6080.3	37.0			
FH	(60°-80°)	5714.1	34.7			G3/7500
FVH	(80°-90°)	153.1	0.9			G2/225
BL	(0°-30°)	760.1	4.6	B2/1000		
BM	(30°-60°)	1727.4	10.5	B2/2500		
BH	(60°-80°)	1022.7	6.2	B3/2500		G3/2500
BVH	(80°-90°)	119.2	0.7			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3
2.5°	2020.7	2020.7	2026.0	2026.0	2026.0	2023.9	2017.6	2019.7	2015.4	2012.3	2007.0
5°	1979.6	1981.8	1988.1	1990.2	1993.3	1994.4	1994.4	1993.3	1994.4	1994.4	1991.3
7.5°	1922.8	1924.9	1932.3	1936.4	1946.0	1954.3	1958.6	1958.6	1963.9	1968.1	1969.2
10°	1888.1	1888.1	1892.3	1892.3	1899.6	1903.8	1917.5	1916.5	1931.2	1944.9	1951.3
12.5°	1883.9	1883.9	1881.7	1874.4	1870.2	1869.1	1882.7	1884.9	1907.0	1931.2	1942.8
15°	1897.6	1897.6	1891.2	1876.5	1860.6	1853.3	1867.0	1871.2	1895.4	1923.9	1941.8
17.5°	1941.8	1940.7	1927.0	1897.6	1870.2	1858.6	1862.8	1867.0	1889.1	1921.7	1943.8
20°	2039.7	2039.7	2010.2	1956.5	1909.1	1881.7	1875.4	1878.5	1894.4	1924.9	1953.3
22.5°	2211.3	2214.5	2161.8	2073.4	1992.3	1934.4	1909.1	1912.3	1919.7	1949.1	1980.7
25°	2464.1	2455.6	2380.8	2255.5	2129.2	2030.3	1978.6	1981.8	1981.8	2009.2	2041.8
27.5°	2731.5	2733.6	2626.2	2491.4	2325.1	2177.7	2095.5	2094.5	2093.4	2119.8	2154.4
30°	3033.8	3034.8	2910.5	2754.7	2564.1	2375.6	2252.4	2251.3	2241.9	2274.5	2319.7
32.5°	3364.4	3363.4	3219.0	3043.2	2831.5	2617.8	2457.7	2456.7	2449.4	2493.5	2548.3
35°	3730.8	3730.8	3587.6	3370.7	3142.2	2904.2	2718.9	2717.8	2722.1	2782.0	2833.7
37.5°	4172.0	4181.5	4008.8	3745.5	3496.0	3242.2	3026.4	3020.1	2988.4	3089.5	3174.8
40°	4632.2	4658.5	4479.5	4172.0	3902.5	3640.3	3402.2	3398.0	3370.7	3478.1	3616.0
42.5°	5130.3	5190.2	4991.3	4677.4	4383.7	4100.4	3861.4	3849.8	3744.5	3912.0	4127.8
45°	5783.2	5822.1	5533.6	5249.3	4972.4	4649.0	4364.7	4302.6	4197.3	4412.1	4692.2
47.5°	6227.5	6208.6	6028.5	5837.9	5660.0	5350.3	4913.3	4834.4	4705.9	4990.3	5298.8
50°	6503.4	6517.1	6416.0	6406.5	6397.0	6181.2	5532.5	5437.8	5289.3	5626.2	5986.4
52.5°	6685.6	6623.4	6641.3	6856.1	7116.3	7013.0	6232.7	6127.5	5974.7	6311.7	6718.2
55°	6609.8	6527.7	6693.0	7116.3	7728.1	7751.2	7001.5	6893.1	6762.4	7040.5	7598.6
57.5°	6296.0	6337.1	6598.1	7186.8	8146.1	8412.5	7885.0	7774.4	7517.5	7799.7	8434.6
60°	5854.8	5937.9	6337.1	7075.2	8438.8	8927.4	8854.8	8781.1	8338.8	8538.9	9312.8
62.5°	5380.9	5463.1	5953.8	6884.6	8307.2	9383.4	9806.7	9761.4	9245.4	9250.7	9869.8
65°	4680.6	4714.4	5215.6	6364.4	7941.8	9795.2	10759.7	10719.7	10112.1	9858.3	10025.7
67.5°	3535.0	3577.1	3988.8	5023.9	6829.8	9571.9	11521.0	11514.6	10633.4	10083.6	9655.1
69°	2610.5	2662.0	2998.0	3900.4	5647.3	8721.1	11556.8	11642.1	10774.4	10060.5	9028.6
70°	1910.2	1969.2	2279.7	3095.9	4703.8	7781.8	11250.4	11433.6	10720.7	9914.1	8539.9
72.5°	811.9	831.9	984.6	1397.4	2386.1	4692.2	9214.9	9600.3	9682.4	8883.2	6671.9
75°	508.6	515.0	574.9	717.1	1061.4	1940.7	5967.4	6492.9	7228.9	6891.9	4466.9
77.5°	383.3	388.5	423.3	493.9	659.2	724.5	2768.4	3301.2	4140.5	4054.1	2222.9
80°	293.8	297.0	320.1	359.1	464.4	453.9	898.3	1128.8	1728.0	1524.8	786.6
82.5°	230.6	231.7	251.6	259.0	324.4	305.4	450.7	502.3	698.2	580.2	384.3
85°	204.3	207.5	227.4	189.6	207.5	184.2	247.5	268.5	370.6	349.6	145.4
87.5°	104.2	109.6	190.6	162.1	104.2	87.4	108.4	116.9	150.6	163.3	70.6
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°	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3	2032.3
2.5°	2008.1	2009.2	2012.3	2017.6	2026.0	2036.5	2049.2	2061.8	2069.1	2074.4	2072.3
5°	1991.3	1992.3	1998.6	2008.1	2018.6	2034.4	2055.5	2071.3	2082.8	2090.2	2089.2
7.5°	1970.2	1973.4	1986.0	1996.5	2011.2	2023.9	2040.8	2055.5	2067.1	2074.4	2073.4
10°	1954.3	1957.5	1973.4	1987.1	1999.7	2001.8	1998.6	1994.4	1993.3	1998.6	1996.5
12.5°	1947.0	1953.3	1968.1	1977.6	1972.2	1952.3	1929.1	1919.7	1916.5	1927.0	1928.1
15°	1949.1	1954.3	1967.0	1960.7	1932.3	1898.6	1885.9	1893.3	1899.6	1906.0	1907.0
17.5°	1954.3	1957.5	1960.7	1937.6	1897.6	1875.4	1871.2	1863.8	1844.9	1834.4	1833.3
20°	1963.9	1968.1	1962.8	1925.9	1890.1	1860.6	1810.1	1764.9	1721.6	1698.5	1689.0
22.5°	1996.5	1999.7	1983.9	1948.1	1893.3	1797.5	1695.3	1617.4	1551.1	1515.3	1501.6
25°	2060.7	2066.1	2043.9	1998.6	1855.4	1688.0	1543.7	1438.4	1355.2	1312.0	1300.5
27.5°	2173.5	2178.7	2154.4	2036.5	1766.9	1541.6	1366.8	1262.5	1190.9	1154.1	1148.9
30°	2341.9	2349.3	2327.1	2035.5	1632.2	1355.2	1194.1	1133.0	1092.0	1066.7	1065.6
32.5°	2575.7	2603.0	2512.5	1999.7	1465.8	1166.8	1063.6	1042.5	1022.4	1005.7	1005.7
35°	2872.7	2936.9	2695.7	1924.9	1282.6	1038.3	990.9	970.9	945.6	927.7	925.6
37.5°	3227.5	3327.6	2826.3	1792.2	1124.6	976.1	946.6	914.0	874.0	839.2	830.8
40°	3715.1	3738.2	2890.6	1576.4	1006.7	942.4	905.6	864.5	814.0	775.0	770.8
42.5°	4204.6	4128.8	2877.9	1344.7	939.3	911.9	863.5	818.2	772.9	740.3	740.3
45°	4761.7	4470.0	2782.0	1111.9	878.2	877.2	824.5	781.3	746.5	722.4	717.1
47.5°	5294.6	4776.5	2616.7	940.3	815.0	842.4	799.2	764.5	732.9	709.7	705.5
50°	5941.1	5131.3	2440.9	820.3	753.9	811.9	788.7	770.8	740.3	700.2	696.0
52.5°	6583.4	5546.2	2305.0	729.8	700.2	787.7	795.0	797.1	768.7	690.8	685.5
55°	7273.2	5989.6	2161.8	659.2	656.0	776.1	809.8	807.6	794.0	692.8	684.5
57.5°	7929.2	6435.0	1948.1	609.7	621.2	764.5	812.9	779.2	755.0	703.4	689.7
60°	8472.5	6803.5	1634.3	574.9	591.8	741.3	791.9	741.3	700.2	701.3	688.7
62.5°	8736.8	6906.8	1249.9	534.9	567.5	703.4	761.3	712.9	674.9	705.5	698.2
65°	8535.7	6613.0	890.9	498.1	538.1	659.2	743.4	688.7	662.4	726.6	718.1
67.5°	7813.4	5812.6	646.5	465.4	509.6	613.9	709.7	666.6	649.7	742.4	723.4
69°	7045.7	5018.7	560.2	446.5	489.7	589.7	687.6	655.0	640.3	720.3	692.8
70°	6407.6	4406.9	517.0	434.9	472.8	576.0	670.7	647.6	630.8	694.0	661.3
72.5°	4594.3	2848.4	434.9	400.2	428.6	545.4	633.9	620.2	594.9	626.6	605.5
75°	2775.8	1486.9	369.6	364.4	382.3	503.3	590.8	573.9	548.6	551.8	541.2
77.5°	1275.2	686.6	309.5	322.2	333.8	450.7	538.1	519.1	495.9	487.5	488.6
80°	559.1	401.2	259.0	274.9	281.1	405.4	481.2	460.1	434.9	480.2	445.4
82.5°	302.2	232.7	202.1	212.7	230.6	352.7	418.1	390.7	366.4	426.5	344.3
85°	122.1	119.0	136.9	147.4	160.1	253.8	349.6	321.2	291.6	261.2	254.8
87.5°	52.7	56.9	67.4	71.6	85.3	157.9	234.9	205.3	206.4	176.9	173.7
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)