

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: P197266

Luminaire Tested: **NAV-AF-04-D-UNV-T3-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197266
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-T3-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16089 lumens
Efficiency: N/A
Efficacy: 94.1 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

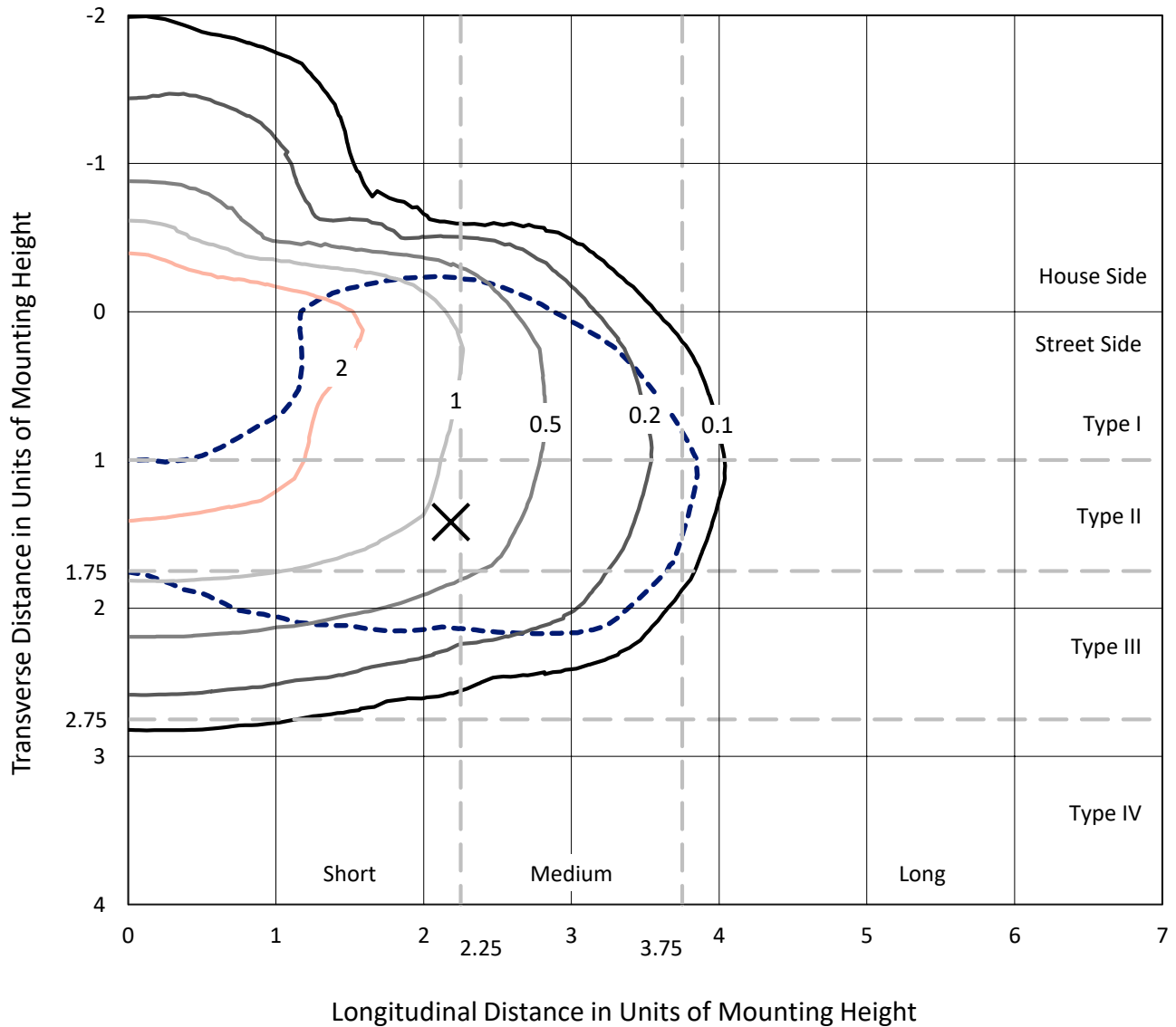
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197266
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Iso-Footcandle Lines of Horizontal Illumination

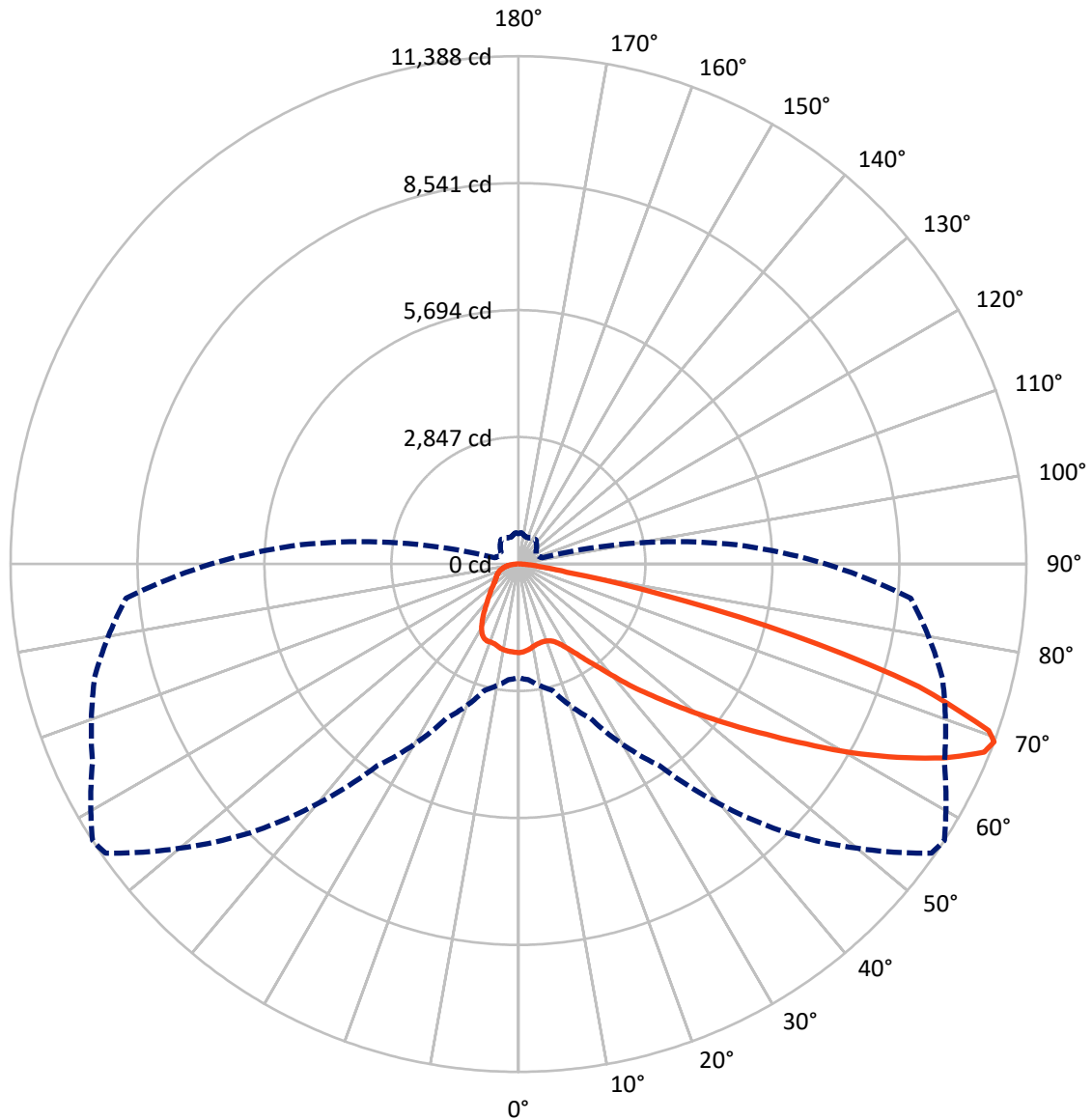
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P197266
CATALOG NUMBER: NAV-AF-04-D-UNV-T3-8030-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197266

CATALOG NUMBER: NAV-AF-04-D-UNV-T3-8030-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3550.3	0.0	3550.3
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	12538.7	0.0	12538.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	16089.0	0.0	16089.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.1	1.2
10°-20°	529.2	3.3
20°-30°	880.3	5.5
30°-40°	1437.4	8.9
40°-50°	2426.1	15.1
50°-60°	3773.9	23.5
60°-70°	4495.5	27.9
70°-80°	2094.3	13.0
80°-90°	266.4	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°	16089.0	100.0
0°-180°	16089.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197266

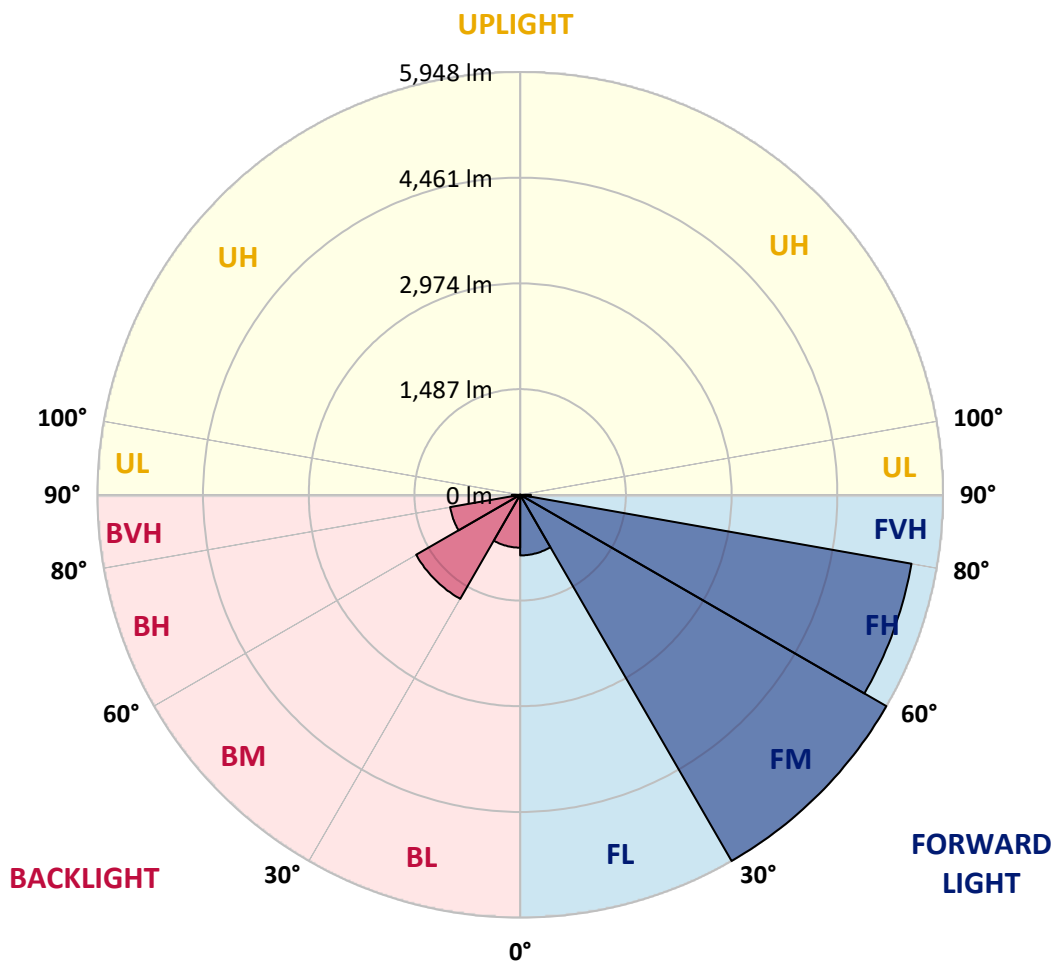
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	852.0	5.3			
FM	(30°-60°)	5947.6	37.0			
FH	(60°-80°)	5589.3	34.7			G3/7500
FVH	(80°-90°)	149.7	0.9			G2/225
BL	(0°-30°)	743.5	4.6	B2/1000		
BM	(30°-60°)	1689.7	10.5	B2/2500		
BH	(60°-80°)	1000.4	6.2	B3/2500		G3/2500
BVH	(80°-90°)	116.6	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





REPORT NUMBER: P197266
 CATALOG NUMBER: NAV-AF-04-D-UNV-T3-8030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0
2.5°	1976.6	1976.6	1981.8	1981.8	1981.8	1979.7	1973.5	1975.6	1971.5	1968.4	1963.2
5°	1936.5	1938.5	1944.7	1946.8	1949.8	1950.9	1950.9	1949.8	1950.9	1950.9	1947.8
7.5°	1880.8	1882.9	1890.1	1894.2	1903.5	1911.7	1915.9	1915.9	1921.0	1925.1	1926.2
10°	1846.8	1846.8	1851.0	1851.0	1858.2	1862.3	1875.7	1874.6	1889.1	1902.5	1908.6
12.5°	1842.7	1842.7	1840.7	1833.4	1829.3	1828.3	1841.7	1843.7	1865.4	1889.1	1900.4
15°	1856.1	1856.1	1849.9	1835.5	1820.1	1812.8	1826.2	1830.4	1854.0	1881.9	1899.4
17.5°	1899.4	1898.3	1885.0	1856.1	1829.3	1818.0	1822.1	1826.2	1847.9	1879.8	1901.4
20°	1995.2	1995.2	1966.3	1913.8	1867.4	1840.7	1834.5	1837.6	1853.0	1882.9	1910.7
22.5°	2163.1	2166.1	2114.6	2028.1	1948.8	1892.2	1867.4	1870.5	1877.7	1906.6	1937.5
25°	2410.3	2402.0	2328.9	2206.3	2082.7	1985.9	1935.4	1938.5	1938.5	1965.3	1997.2
27.5°	2671.9	2674.0	2568.9	2437.0	2274.3	2130.1	2049.8	2048.7	2047.7	2073.4	2107.4
30°	2967.5	2968.5	2847.0	2694.6	2508.1	2323.7	2203.2	2202.2	2192.9	2224.9	2269.2
32.5°	3290.9	3289.9	3148.8	2976.8	2769.7	2560.6	2404.1	2403.1	2395.8	2439.1	2492.7
35°	3649.4	3649.4	3509.3	3297.1	3073.6	2840.8	2659.5	2658.5	2662.6	2721.3	2771.8
37.5°	4081.0	4090.2	3921.3	3663.8	3419.7	3171.5	2960.3	2954.1	2923.2	3022.1	3105.5
40°	4531.1	4556.8	4381.7	4081.0	3817.3	3560.8	3328.0	3323.9	3297.1	3402.2	3537.1
42.5°	5018.3	5077.0	4882.3	4575.4	4288.0	4010.9	3777.1	3765.8	3662.8	3826.6	4037.7
45°	5656.9	5695.0	5412.8	5134.7	4863.8	4547.6	4269.5	4208.7	4105.7	4315.8	4589.8
47.5°	6091.6	6073.0	5896.9	5710.5	5536.4	5233.6	4806.1	4728.9	4603.2	4881.3	5183.1
50°	6361.4	6374.8	6276.0	6266.7	6257.4	6046.3	5411.8	5319.1	5173.8	5503.4	5855.7
52.5°	6539.6	6478.9	6496.4	6706.5	6960.9	6860.0	6096.7	5993.7	5844.4	6174.0	6571.6
55°	6465.5	6385.1	6546.9	6960.9	7559.4	7582.0	6848.7	6742.6	6614.8	6886.8	7432.7
57.5°	6158.5	6198.7	6454.2	7029.9	7968.3	8228.9	7712.8	7604.7	7353.4	7629.4	8250.5
60°	5727.0	5808.3	6198.7	6920.8	8254.6	8732.6	8661.5	8589.4	8156.8	8352.5	9109.6
62.5°	5263.4	5343.8	5823.8	6734.3	8125.9	9178.6	9592.6	9548.4	9043.6	9048.8	9654.4
65°	4578.5	4611.4	5101.7	6225.5	7768.5	9581.3	10524.8	10485.7	9891.4	9643.1	9806.9
67.5°	3457.8	3499.0	3901.7	4914.3	6680.8	9362.9	11269.5	11263.3	10401.2	9863.5	9444.3
69°	2553.4	2603.9	2932.5	3815.2	5524.0	8530.7	11304.6	11388.0	10539.2	9840.9	8831.5
70°	1868.5	1926.2	2230.0	3028.3	4601.1	7611.9	11004.8	11184.0	10486.7	9697.7	8353.5
72.5°	794.2	813.7	963.1	1366.8	2334.0	4589.8	9013.8	9390.8	9471.1	8689.3	6526.3
75°	497.5	503.7	562.4	701.4	1038.3	1898.3	5837.2	6351.1	7071.1	6741.5	4369.4
77.5°	374.9	380.1	414.1	483.1	644.8	708.7	2707.9	3229.1	4050.1	3965.6	2174.4
80°	287.4	290.5	313.1	351.2	454.2	443.9	878.6	1104.2	1690.3	1491.5	769.4
82.5°	225.6	226.6	246.2	253.4	317.2	298.7	440.9	491.3	682.9	567.5	376.0
85°	199.8	202.9	222.5	185.4	202.9	180.3	242.1	262.7	362.6	342.0	142.1
87.5°	102.0	107.1	186.4	158.6	102.0	85.5	106.1	114.3	147.3	159.7	69.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P197266

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0	1988.0
2.5°	1964.3	1965.3	1968.4	1973.5	1981.8	1992.1	2004.4	2016.8	2024.0	2029.2	2027.1
5°	1947.8	1948.8	1955.0	1964.3	1974.6	1990.0	2010.6	2026.1	2037.4	2044.6	2043.6
7.5°	1927.2	1930.3	1942.6	1952.9	1967.4	1979.7	1996.2	2010.6	2021.9	2029.2	2028.1
10°	1911.7	1914.8	1930.3	1943.7	1956.0	1958.1	1955.0	1950.9	1949.8	1955.0	1952.9
12.5°	1904.5	1910.7	1925.1	1934.4	1929.2	1909.7	1887.0	1877.7	1874.6	1885.0	1886.0
15°	1906.6	1911.7	1924.1	1917.9	1890.1	1857.1	1844.8	1852.0	1858.2	1864.3	1865.4
17.5°	1911.7	1914.8	1917.9	1895.3	1856.1	1834.5	1830.4	1823.1	1804.6	1794.3	1793.3
20°	1921.0	1925.1	1920.0	1883.9	1848.9	1820.1	1770.6	1726.3	1684.1	1661.4	1652.2
22.5°	1952.9	1956.0	1940.6	1905.6	1852.0	1758.3	1658.3	1582.1	1517.2	1482.2	1468.8
25°	2015.8	2020.9	1999.3	1955.0	1814.9	1651.1	1510.0	1407.0	1325.6	1283.4	1272.1
27.5°	2126.0	2131.1	2107.4	1992.1	1728.4	1508.0	1337.0	1235.0	1165.0	1128.9	1123.8
30°	2290.8	2298.0	2276.4	1991.0	1596.5	1325.6	1168.1	1108.3	1068.1	1043.4	1042.4
32.5°	2519.4	2546.2	2457.6	1956.0	1433.8	1141.3	1040.3	1019.7	1000.2	983.7	983.7
35°	2809.9	2872.7	2636.9	1882.9	1254.6	1015.6	969.3	949.7	925.0	907.5	905.4
37.5°	3157.0	3254.9	2764.6	1753.1	1100.1	954.8	926.0	894.1	854.9	820.9	812.7
40°	3633.9	3656.6	2827.4	1542.0	984.7	921.9	885.8	845.7	796.2	758.1	754.0
42.5°	4112.9	4038.7	2815.1	1315.3	918.8	892.0	844.6	800.3	756.0	724.1	724.1
45°	4657.8	4372.5	2721.3	1087.7	859.0	858.0	806.5	764.3	730.3	706.6	701.4
47.5°	5179.0	4672.2	2559.6	919.8	797.2	824.0	781.8	747.8	716.9	694.2	690.1
50°	5811.4	5019.3	2387.6	802.4	737.5	794.2	771.5	754.0	724.1	685.0	680.8
52.5°	6439.7	5425.2	2254.7	713.8	685.0	770.5	777.7	779.7	751.9	675.7	670.5
55°	7114.4	5858.8	2114.6	644.8	641.7	759.1	792.1	790.0	776.6	677.8	669.5
57.5°	7756.1	6294.5	1905.6	596.4	607.7	747.8	795.2	762.2	738.5	688.1	674.7
60°	8287.6	6655.0	1598.6	562.4	578.9	725.1	774.6	725.1	685.0	686.0	673.6
62.5°	8546.1	6755.9	1222.6	523.3	555.2	688.1	744.7	697.3	660.2	690.1	682.9
65°	8349.4	6468.6	871.4	487.2	526.3	644.8	727.2	673.6	647.9	710.7	702.5
67.5°	7642.8	5685.8	632.4	455.3	498.5	600.5	694.2	652.0	635.5	726.2	707.6
69°	6891.9	4909.1	548.0	436.7	479.0	576.8	672.6	640.7	626.3	704.5	677.8
70°	6267.7	4310.7	505.7	425.4	462.5	563.4	656.1	633.5	617.0	678.8	646.9
72.5°	4494.0	2786.2	425.4	391.4	419.2	533.6	620.1	606.7	582.0	612.9	592.3
75°	2715.2	1454.4	361.5	356.4	373.9	492.4	577.8	561.4	536.6	539.7	529.4
77.5°	1247.4	671.6	302.8	315.2	326.5	440.9	526.3	507.8	485.1	476.9	477.9
80°	546.9	392.4	253.4	268.8	275.0	396.6	470.7	450.1	425.4	469.7	435.7
82.5°	295.6	227.6	197.8	208.1	225.6	345.1	408.9	382.1	358.4	417.2	336.8
85°	119.5	116.4	133.9	144.2	156.6	248.2	342.0	314.2	285.3	255.4	249.3
87.5°	51.5	55.6	65.9	70.0	83.4	154.5	229.7	200.9	201.9	173.0	170.0
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)