

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: P195820

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195820
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-T3-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16079 lumens
Efficiency: N/A
Efficacy: 124.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

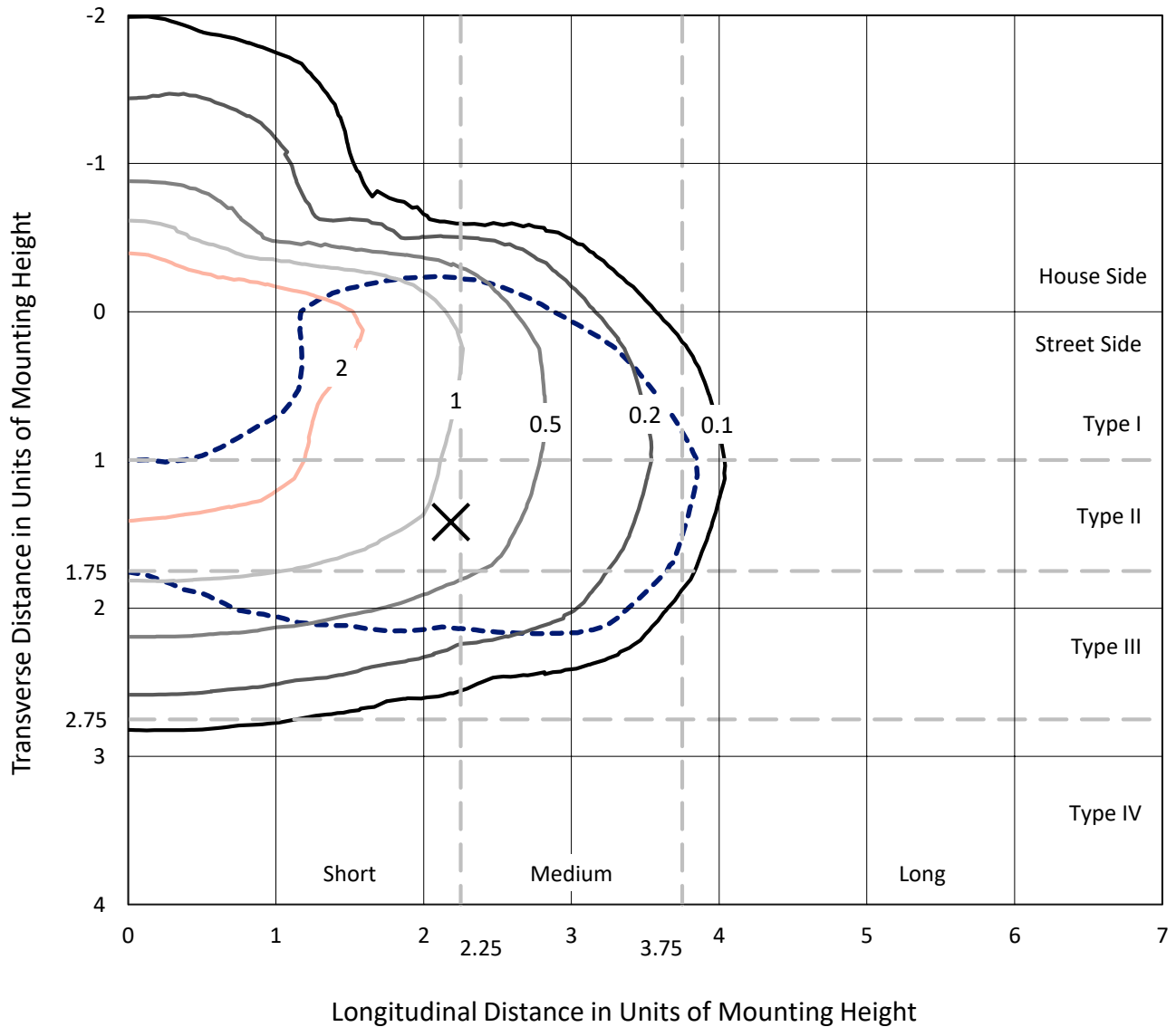
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

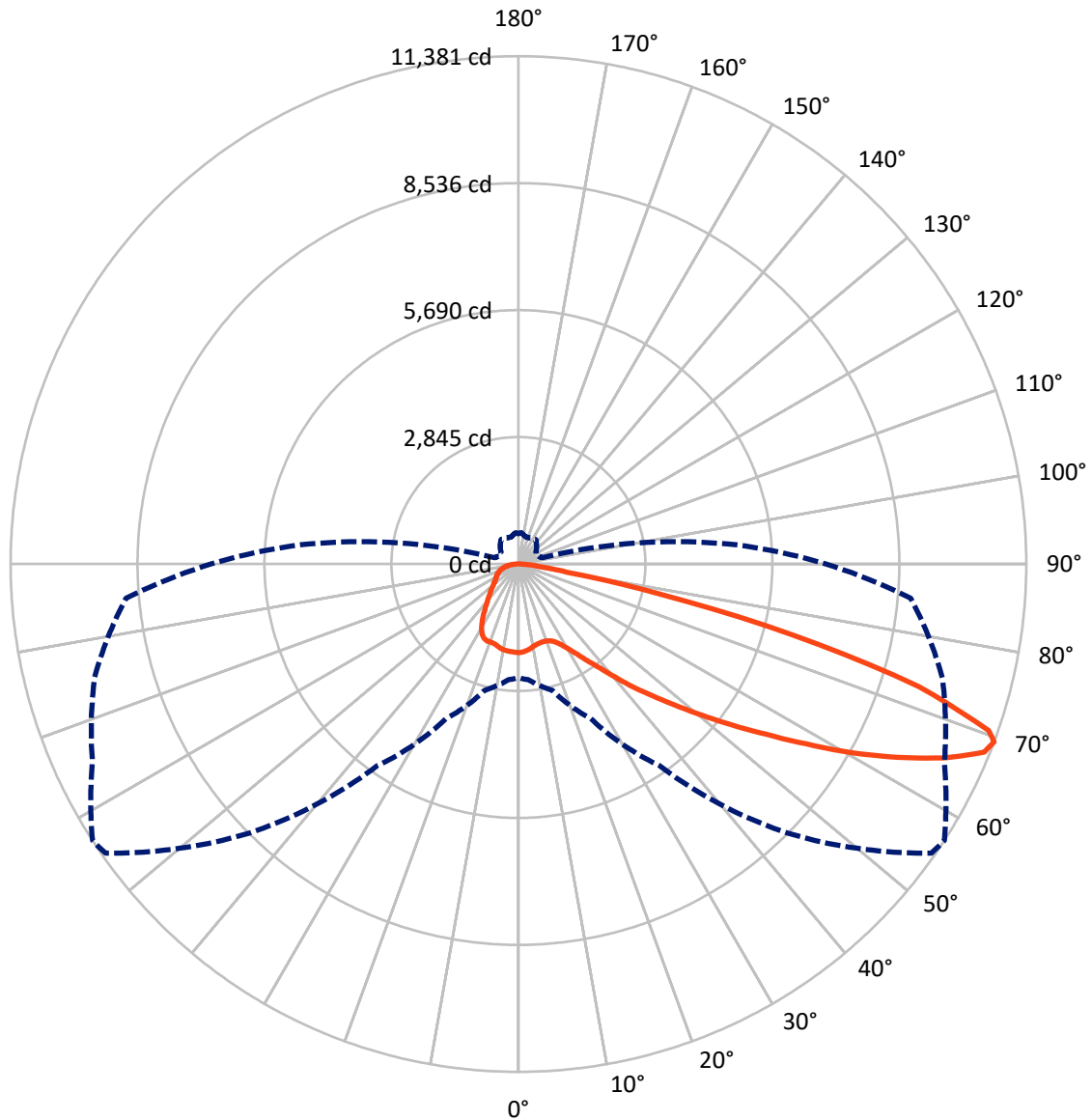
× Max cd
 - - - 1/2 Max cd



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
House Side	Lumens	3548.1	0.0	3548.1
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	12530.9	0.0	12530.9
	% Fixture	77.9	0.0	77.9
Total	Lumens	16079.0	0.0	16079.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.0	1.2
10°-20°	528.8	3.3
20°-30°	879.7	5.5
30°-40°	1436.5	8.9
40°-50°	2424.5	15.1
50°-60°	3771.5	23.5
60°-70°	4492.7	27.9
70°-80°	2093.0	13.0
80°-90°	266.2	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°	16079.0	100.0
0°-180°	16079.0	100.0



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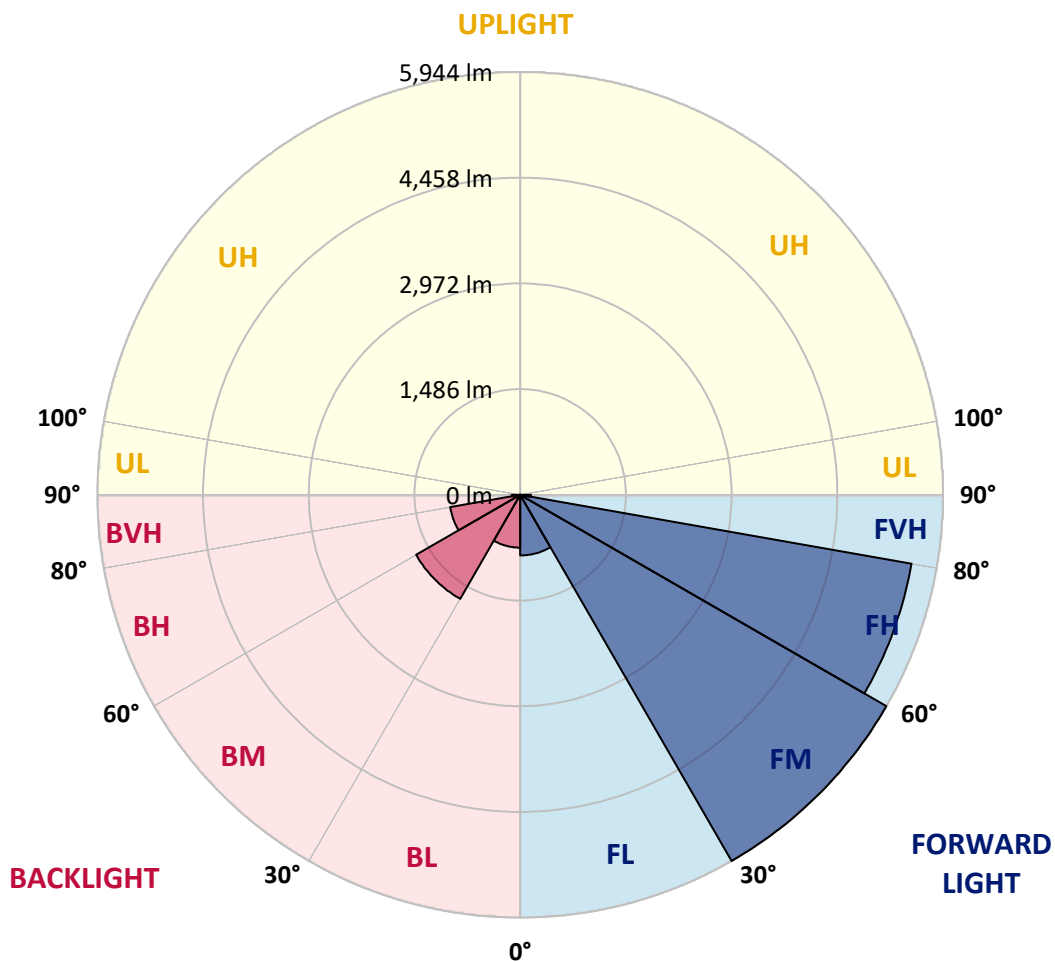
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	851.5	5.3			
FM	(30°-60°)	5943.9	37.0			
FH	(60°-80°)	5585.9	34.7			G3/7500
FVH	(80°-90°)	149.6	0.9			G2/225
BL	(0°-30°)	743.0	4.6	B2/1000		
BM	(30°-60°)	1688.7	10.5	B2/2500		
BH	(60°-80°)	999.8	6.2	B2/1000		G2/1000
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: B2-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7
2.5°	1975.4	1975.4	1980.5	1980.5	1980.5	1978.5	1972.3	1974.4	1970.2	1967.2	1962.0
5°	1935.2	1937.3	1943.5	1945.5	1948.6	1949.7	1949.7	1948.6	1949.7	1949.7	1946.6
7.5°	1879.7	1881.7	1888.9	1893.0	1902.3	1910.5	1914.7	1914.7	1919.8	1923.9	1925.0
10°	1845.7	1845.7	1849.8	1849.8	1857.0	1861.1	1874.5	1873.5	1887.9	1901.3	1907.5
12.5°	1841.6	1841.6	1839.5	1832.3	1828.2	1827.2	1840.5	1842.6	1864.2	1887.9	1899.2
15°	1855.0	1855.0	1848.8	1834.4	1818.9	1811.7	1825.1	1829.2	1852.9	1880.7	1898.2
17.5°	1898.2	1897.2	1883.8	1855.0	1828.2	1816.9	1821.0	1825.1	1846.7	1878.6	1900.2
20°	1993.9	1993.9	1965.1	1912.6	1866.3	1839.5	1833.3	1836.4	1851.9	1881.7	1909.5
22.5°	2161.7	2164.8	2113.3	2026.9	1947.6	1891.0	1866.3	1869.4	1876.6	1905.4	1936.3
25°	2408.8	2400.5	2327.4	2204.9	2081.4	1984.7	1934.2	1937.3	1937.3	1964.1	1996.0
27.5°	2670.2	2672.3	2567.3	2435.5	2272.9	2128.8	2048.5	2047.5	2046.4	2072.2	2106.1
30°	2965.7	2966.7	2845.2	2692.9	2506.6	2322.3	2201.9	2200.8	2191.6	2223.5	2267.7
32.5°	3288.9	3287.9	3146.8	2974.9	2768.0	2559.1	2402.6	2401.6	2394.4	2437.6	2491.1
35°	3647.1	3647.1	3507.1	3295.1	3071.7	2839.0	2657.9	2656.8	2661.0	2719.6	2770.1
37.5°	4078.4	4087.7	3918.9	3661.5	3417.6	3169.5	2958.5	2952.3	2921.4	3020.2	3103.6
40°	4528.3	4554.0	4379.0	4078.4	3814.9	3558.6	3325.9	3321.8	3295.1	3400.1	3534.9
42.5°	5015.2	5073.8	4879.3	4572.5	4285.3	4008.4	3774.8	3763.4	3660.5	3824.2	4035.2
45°	5653.4	5691.5	5409.4	5131.5	4860.8	4544.7	4266.8	4206.1	4103.1	4313.1	4586.9
47.5°	6087.8	6069.3	5893.2	5706.9	5533.0	5230.3	4803.1	4725.9	4600.3	4878.3	5179.9
50°	6357.5	6370.9	6272.1	6262.8	6253.5	6042.5	5408.4	5315.8	5170.6	5500.0	5852.1
52.5°	6535.6	6474.8	6492.3	6702.3	6956.6	6855.7	6092.9	5990.0	5840.7	6170.1	6567.5
55°	6461.5	6381.2	6542.8	6956.6	7554.7	7577.3	6844.4	6738.4	6610.7	6882.5	7428.1
57.5°	6154.7	6194.9	6450.1	7025.6	7963.3	8223.8	7708.1	7600.0	7348.8	7624.7	8245.4
60°	5723.4	5804.7	6194.9	6916.5	8249.5	8727.1	8656.1	8584.1	8151.7	8347.3	9103.9
62.5°	5260.2	5340.5	5820.2	6730.1	8120.8	9172.9	9586.7	9542.4	9038.0	9043.2	9648.4
65°	4575.6	4608.6	5098.6	6221.6	7763.6	9575.4	10518.3	10479.2	9885.2	9637.1	9800.8
67.5°	3455.7	3496.8	3899.3	4911.2	6676.6	9357.1	11262.5	11256.3	10394.8	9857.4	9438.5
69°	2551.9	2602.3	2930.7	3812.9	5520.6	8525.4	11297.5	11380.9	10532.7	9834.8	8826.0
70°	1867.3	1925.0	2228.6	3026.4	4598.3	7607.2	10998.0	11177.1	10480.2	9691.7	8348.3
72.5°	793.7	813.2	962.5	1366.0	2332.6	4586.9	9008.2	9384.9	9465.2	8683.9	6522.2
75°	497.2	503.4	562.0	701.0	1037.6	1897.2	5833.5	6347.2	7066.7	6737.3	4366.7
77.5°	374.7	379.8	413.8	482.8	644.4	708.2	2706.3	3227.1	4047.6	3963.1	2173.0
80°	287.2	290.3	312.9	351.0	454.0	443.7	878.1	1103.5	1689.2	1490.6	769.0
82.5°	225.4	226.5	246.0	253.2	317.1	298.5	440.6	491.0	682.5	567.2	375.7
85°	199.7	202.8	222.3	185.3	202.8	180.1	241.9	262.5	362.3	341.8	142.1
87.5°	101.9	107.1	186.3	158.5	101.9	85.4	106.0	114.3	147.2	159.6	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7	1986.7
2.5°	1963.0	1964.1	1967.2	1972.3	1980.5	1990.8	2003.2	2015.5	2022.7	2027.9	2025.8
5°	1946.6	1947.6	1953.8	1963.0	1973.3	1988.8	2009.4	2024.8	2036.1	2043.3	2042.3
7.5°	1926.0	1929.1	1941.4	1951.7	1966.1	1978.5	1995.0	2009.4	2020.7	2027.9	2026.9
10°	1910.5	1913.6	1929.1	1942.5	1954.8	1956.9	1953.8	1949.7	1948.6	1953.8	1951.7
12.5°	1903.3	1909.5	1923.9	1933.2	1928.0	1908.5	1885.8	1876.6	1873.5	1883.8	1884.8
15°	1905.4	1910.5	1922.9	1916.7	1888.9	1856.0	1843.6	1850.8	1857.0	1863.2	1864.2
17.5°	1910.5	1913.6	1916.7	1894.1	1855.0	1833.3	1829.2	1822.0	1803.5	1793.2	1792.2
20°	1919.8	1923.9	1918.8	1882.7	1847.7	1818.9	1769.5	1725.3	1683.0	1660.4	1651.1
22.5°	1951.7	1954.8	1939.4	1904.4	1850.8	1757.2	1657.3	1581.1	1516.3	1481.3	1467.9
25°	2014.5	2019.7	1998.0	1953.8	1813.8	1650.1	1509.1	1406.1	1324.8	1282.6	1271.3
27.5°	2124.7	2129.8	2106.1	1990.8	1727.3	1507.0	1336.1	1234.2	1164.2	1128.2	1123.1
30°	2289.4	2296.6	2274.9	1989.8	1595.6	1324.8	1167.3	1107.6	1067.5	1042.8	1041.7
32.5°	2517.9	2544.6	2456.1	1954.8	1432.9	1140.6	1039.7	1019.1	999.5	983.1	983.1
35°	2808.2	2871.0	2635.2	1881.7	1253.8	1015.0	968.7	949.1	924.4	906.9	904.8
37.5°	3155.1	3252.9	2762.9	1752.0	1099.4	954.2	925.4	893.5	854.4	820.4	812.2
40°	3631.7	3654.3	2825.7	1541.0	984.1	921.3	885.3	845.1	795.7	757.6	753.5
42.5°	4110.3	4036.2	2813.3	1314.5	918.2	891.4	844.1	799.8	755.6	723.7	723.7
45°	4654.9	4369.7	2719.6	1087.0	858.5	857.5	806.0	763.8	729.8	706.2	701.0
47.5°	5175.8	4669.3	2558.0	919.2	796.7	823.5	781.3	747.3	716.5	693.8	689.7
50°	5807.8	5016.2	2386.1	801.9	737.0	793.7	771.0	753.5	723.7	684.5	680.4
52.5°	6435.7	5421.8	2253.3	713.4	684.5	770.0	777.2	779.2	751.5	675.3	670.1
55°	7110.0	5855.2	2113.3	644.4	641.3	758.7	791.6	789.5	776.2	677.3	669.1
57.5°	7751.3	6290.6	1904.4	596.0	607.3	747.3	794.7	761.7	738.1	687.6	674.2
60°	8282.4	6650.9	1597.6	562.0	578.5	724.7	774.1	724.7	684.5	685.6	673.2
62.5°	8540.8	6751.8	1221.9	522.9	554.8	687.6	744.2	696.9	659.8	689.7	682.5
65°	8344.2	6464.6	870.9	486.9	526.0	644.4	726.7	673.2	647.5	710.3	702.0
67.5°	7638.1	5682.2	632.0	455.0	498.2	600.1	693.8	651.6	635.1	725.7	707.2
69°	6887.6	4906.1	547.6	436.5	478.7	576.5	672.2	640.3	625.9	704.1	677.3
70°	6263.8	4308.0	505.4	425.1	462.2	563.1	655.7	633.1	616.6	678.4	646.5
72.5°	4491.2	2784.5	425.1	391.2	419.0	533.2	619.7	606.3	581.6	612.5	591.9
75°	2713.5	1453.5	361.3	356.2	373.7	492.0	577.5	561.0	536.3	539.4	529.1
77.5°	1246.6	671.2	302.6	315.0	326.3	440.6	526.0	507.5	484.8	476.6	477.6
80°	546.6	392.2	253.2	268.7	274.8	396.3	470.4	449.8	425.1	469.4	435.4
82.5°	295.4	227.5	197.6	207.9	225.4	344.8	408.7	381.9	358.2	416.9	336.6
85°	119.4	116.3	133.8	144.1	156.5	248.1	341.8	314.0	285.1	255.3	249.1
87.5°	51.5	55.6	65.9	70.0	83.4	154.4	229.6	200.7	201.8	172.9	169.8
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)