

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: P195380

Luminaire Tested: **NAV-AF-02-D-UNV-T3R-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195380
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13590 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

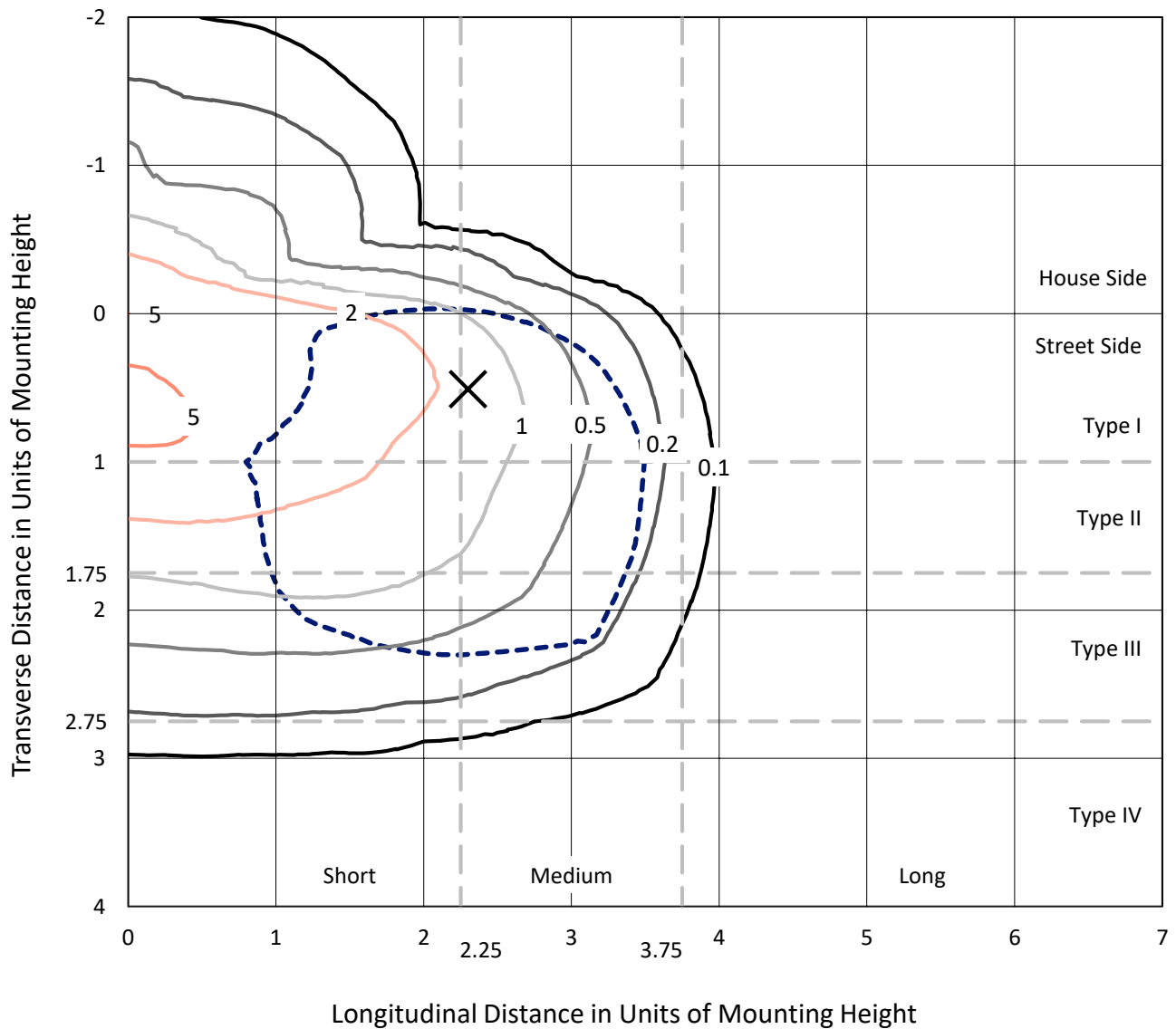
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

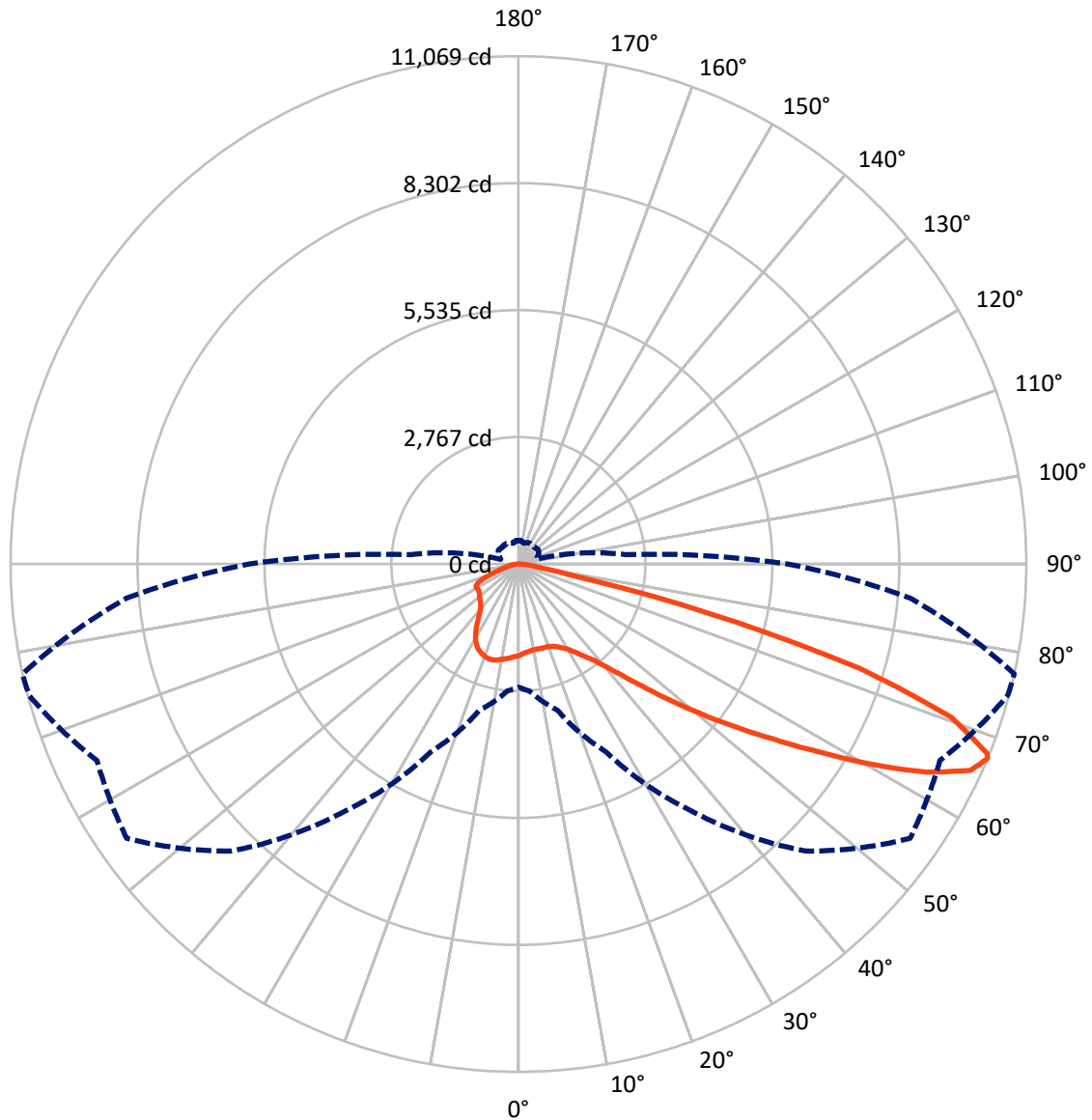
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2335.4	0.0	2335.4
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	11254.6	0.0	11254.6
	% Fixture	82.8	0.0	82.8
Total	Lumens	13590.0	0.0	13590.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.1	1.3
10°-20°	493.3	3.6
20°-30°	838.2	6.2
30°-40°	1340.9	9.9
40°-50°	2064.4	15.2
50°-60°	2864.1	21.1
60°-70°	3820.5	28.1
70°-80°	1818.2	13.4
80°-90°	172.2	1.3
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°	13590.0	100.0
0°-180°	13590.0	100.0



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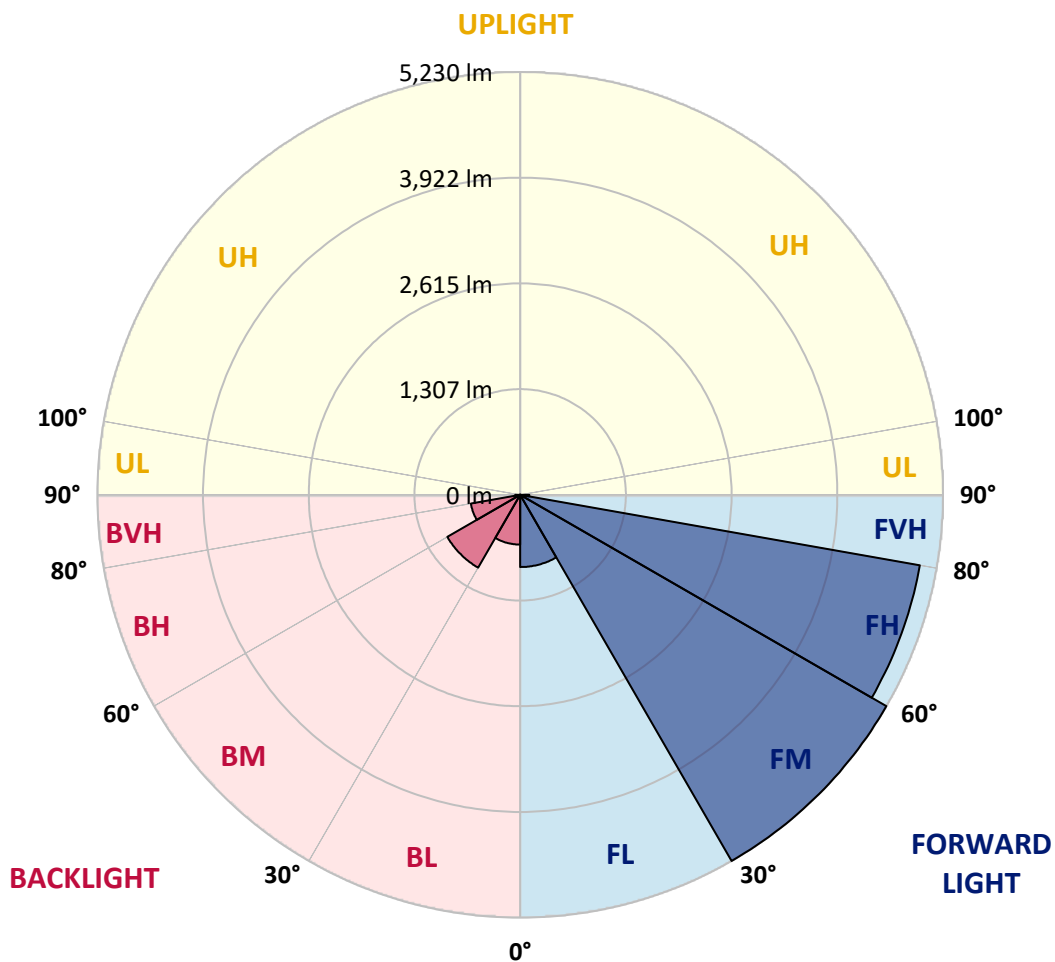
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	893.7	6.6			
FM	(30°-60°)	5229.6	38.5			
FH	(60°-80°)	5019.5	36.9			G3/7500
FVH	(80°-90°)	111.8	0.8			G2/225
BL	(0°-30°)	616.0	4.5	B2/1000		
BM	(30°-60°)	1039.9	7.7	B2/2500		
BH	(60°-80°)	619.2	4.6	B2/1000		G2/1000
BVH	(80°-90°)	60.3	0.4			G1/100
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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1
2.5°	1793.4	1801.8	1802.7	1827.0	1838.0	1865.7	1895.9	1922.8	1946.3	1954.7	1969.9
5°	1613.7	1613.7	1616.2	1632.2	1663.2	1707.8	1770.8	1839.6	1911.9	1929.5	1974.1
7.5°	1519.6	1521.3	1523.0	1538.9	1563.3	1602.8	1665.8	1759.8	1880.0	1909.4	1987.5
10°	1528.0	1525.5	1517.1	1513.7	1523.8	1549.0	1603.6	1700.2	1853.1	1898.4	2011.9
12.5°	1659.9	1654.8	1627.1	1586.8	1549.8	1540.6	1578.4	1670.0	1840.5	1898.4	2053.0
15°	1885.8	1889.2	1834.6	1750.6	1654.0	1588.5	1583.4	1659.0	1836.3	1903.5	2100.9
17.5°	2179.9	2181.5	2105.9	1984.1	1823.7	1688.4	1617.9	1659.0	1836.3	1908.5	2147.1
20°	2492.3	2480.6	2394.9	2242.0	2033.7	1827.0	1680.9	1669.1	1841.3	1916.1	2190.8
22.5°	2760.3	2749.4	2659.5	2499.1	2260.5	1990.9	1765.7	1702.7	1869.0	1947.2	2252.1
25°	2994.7	3001.4	2914.0	2733.4	2486.5	2175.7	1892.6	1780.0	1927.0	2003.5	2327.7
27.5°	3279.4	3266.8	3166.0	2993.8	2719.1	2367.2	2051.3	1877.4	1995.9	2071.5	2420.1
30°	3608.7	3602.9	3466.8	3289.5	2975.4	2581.4	2208.4	1982.5	2085.8	2164.7	2536.0
32.5°	4008.6	4007.7	3861.6	3644.0	3263.5	2823.3	2394.1	2126.1	2216.8	2296.6	2689.7
35°	4461.4	4460.5	4309.3	4022.0	3595.3	3091.3	2612.5	2300.8	2378.9	2462.9	2872.9
37.5°	4775.5	4770.5	4691.5	4412.6	3962.4	3402.9	2885.5	2536.0	2562.9	2657.0	3093.8
40°	4836.0	4866.2	4934.3	4769.6	4363.1	3749.0	3159.3	2788.9	2814.1	2935.0	3371.8
42.5°	4770.5	4810.0	5035.9	5082.1	4763.8	4168.2	3502.0	3139.2	3171.1	3321.4	3698.6
45°	4713.4	4747.8	5030.9	5255.2	5159.4	4625.2	3929.6	3566.7	3627.2	3813.7	4071.6
47.5°	4615.9	4647.8	4931.8	5286.3	5385.4	5065.3	4444.6	4080.8	4185.0	4411.0	4496.6
50°	4610.9	4625.2	4796.5	5182.1	5463.5	5399.7	5014.9	4682.3	4841.9	5102.3	4967.0
52.5°	4483.2	4583.2	4738.6	5015.8	5465.2	5594.5	5576.9	5341.7	5587.8	5875.9	5482.8
55°	3702.0	3817.1	4545.4	4934.3	5455.1	5761.7	6090.2	6043.1	6427.8	6731.1	6060.8
57.5°	3456.7	3505.4	3987.6	4958.6	5539.1	6038.1	6603.4	6796.6	7388.8	7719.8	6753.8
60°	3389.5	3440.7	3875.9	4970.4	5766.7	6541.2	7299.8	7647.6	8518.7	8869.8	7540.9
62.5°	3314.7	3381.1	3884.3	4981.3	6166.6	7285.5	8223.8	8570.7	9678.7	9992.1	8278.4
65°	3096.3	3184.5	3728.9	4912.4	6604.2	8219.6	9445.2	9533.4	10637.2	10836.3	8723.6
67°	2682.2	2778.8	3302.1	4514.3	6563.9	8848.8	10422.1	10135.7	11044.6	11069.0	8579.1
67.5°	2551.1	2651.1	3157.6	4348.8	6448.8	8931.1	10595.2	10218.9	11041.2	11014.4	8444.7
70°	1717.8	1830.4	2236.1	3192.9	5172.9	8312.0	10553.2	9962.7	10317.1	10008.9	7255.3
72.5°	852.6	856.0	1115.5	1748.9	3134.1	5961.6	8803.4	8522.9	8363.3	7781.1	5324.1
75°	410.8	418.3	526.7	772.8	1321.4	3077.8	6003.6	5750.8	4896.5	4239.6	2664.5
77.5°	313.3	320.9	409.1	503.2	551.1	1003.8	2973.7	2403.3	1418.8	1133.2	751.0
80°	241.9	256.2	345.2	386.4	364.6	402.4	934.9	735.9	551.9	506.5	372.1
82.5°	189.0	197.4	293.2	293.2	252.0	269.6	435.1	425.1	342.7	309.1	199.9
85°	133.6	150.4	236.0	218.4	165.5	167.2	260.4	249.5	176.4	142.0	78.1
87.5°	59.6	76.4	168.0	142.8	88.2	68.0	106.7	91.6	69.7	53.8	36.1
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°	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1	2000.1
2.5°	1986.7	2000.1	2021.1	2033.7	2050.5	2057.2	2063.9	2075.7	2084.9	2082.4	2078.2
5°	2005.1	2027.8	2053.9	2062.3	2062.3	2053.9	2048.8	2049.7	2047.1	2045.5	2040.4
7.5°	2032.0	2063.1	2081.6	2073.2	2047.1	2014.4	1983.3	1964.8	1947.2	1936.2	1939.6
10°	2069.8	2104.3	2105.1	2068.1	2006.0	1934.6	1873.2	1833.8	1796.0	1779.2	1784.2
12.5°	2124.4	2158.9	2129.5	2049.7	1940.4	1828.7	1716.2	1634.7	1561.6	1544.0	1538.9
15°	2183.2	2210.1	2144.6	2010.2	1846.4	1662.4	1473.4	1351.6	1270.1	1255.8	1250.8
17.5°	2234.5	2249.6	2137.0	1939.6	1697.7	1407.9	1187.8	1105.5	1088.7	1097.1	1097.1
20°	2279.8	2274.8	2104.3	1830.4	1463.3	1125.6	997.9	997.1	1019.8	1040.8	1042.5
22.5°	2336.9	2297.5	2052.2	1668.3	1183.6	939.1	917.3	939.1	964.3	987.9	990.4
25°	2405.0	2322.7	1982.5	1437.3	951.7	852.6	861.9	880.3	896.3	914.8	915.6
27.5°	2473.0	2342.0	1884.2	1165.9	825.7	797.2	807.3	814.8	819.0	830.8	830.8
30°	2552.0	2357.1	1742.2	934.1	767.8	748.5	742.6	739.2	742.6	758.5	759.4
32.5°	2651.1	2384.0	1548.2	801.4	740.9	714.0	683.8	667.0	678.7	707.3	712.3
35°	2763.7	2415.9	1315.5	748.5	731.7	697.2	641.8	615.7	619.9	646.0	650.2
37.5°	2904.8	2457.1	1086.1	735.9	740.9	695.5	622.5	585.5	567.0	567.9	567.0
40°	3085.4	2498.2	904.7	739.2	761.1	699.7	613.2	555.3	516.6	518.3	521.7
42.5°	3274.4	2525.1	789.6	749.3	785.4	705.6	609.9	525.9	492.3	520.8	546.9
45°	3495.3	2517.5	730.0	758.5	803.9	708.1	597.3	522.5	494.8	580.5	629.2
47.5°	3749.0	2484.8	696.4	762.7	808.9	707.3	588.0	533.4	515.8	664.5	719.9
50°	4024.5	2433.5	669.5	756.0	806.4	703.9	598.1	546.9	524.2	682.9	725.8
52.5°	4326.1	2386.5	641.8	740.9	793.8	693.9	610.7	541.0	500.7	629.2	661.9
55°	4683.1	2375.6	610.7	714.9	772.8	682.9	604.0	522.5	474.6	557.8	577.9
57.5°	5091.4	2443.6	570.4	682.9	744.3	661.1	588.0	512.4	465.4	507.4	518.3
60°	5609.7	2594.0	527.5	649.3	709.0	628.3	573.7	514.9	467.9	499.8	502.3
62.5°	6014.6	2729.2	488.9	608.2	661.9	588.9	558.6	517.5	475.5	509.9	505.7
65°	6161.6	2662.9	441.0	546.9	595.6	545.2	537.6	519.1	475.5	515.8	506.5
67°	5860.0	2346.2	395.7	485.5	532.6	506.5	517.5	512.4	467.1	514.9	499.0
67.5°	5716.3	2234.5	383.9	475.5	515.8	494.8	512.4	509.1	464.5	513.3	494.8
70°	4714.2	1602.8	324.2	399.0	431.8	436.0	481.3	487.2	444.4	482.2	448.6
72.5°	3354.2	1003.0	279.7	309.1	348.6	373.0	439.3	457.8	417.5	419.2	391.4
75°	1659.9	538.5	249.5	238.6	271.3	310.8	383.0	417.5	378.0	349.4	340.2
77.5°	560.3	304.9	210.8	192.4	210.8	249.5	317.5	364.6	333.5	295.7	289.8
80°	289.8	221.8	164.6	154.6	166.3	193.2	248.6	303.2	284.8	286.4	236.0
82.5°	180.6	135.2	118.4	117.6	126.0	147.8	183.1	246.1	244.4	209.2	152.0
85°	84.0	78.1	75.6	78.1	80.6	84.0	119.3	175.6	185.6	112.6	100.0
87.5°	35.3	34.4	30.2	32.8	36.1	35.3	47.9	74.8	104.2	70.6	64.7
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)