

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: P270550

Luminaire Tested: **NAV-AF-04-D-UNV-T3R-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270550
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-04-D-UNV-T3R-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14205 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

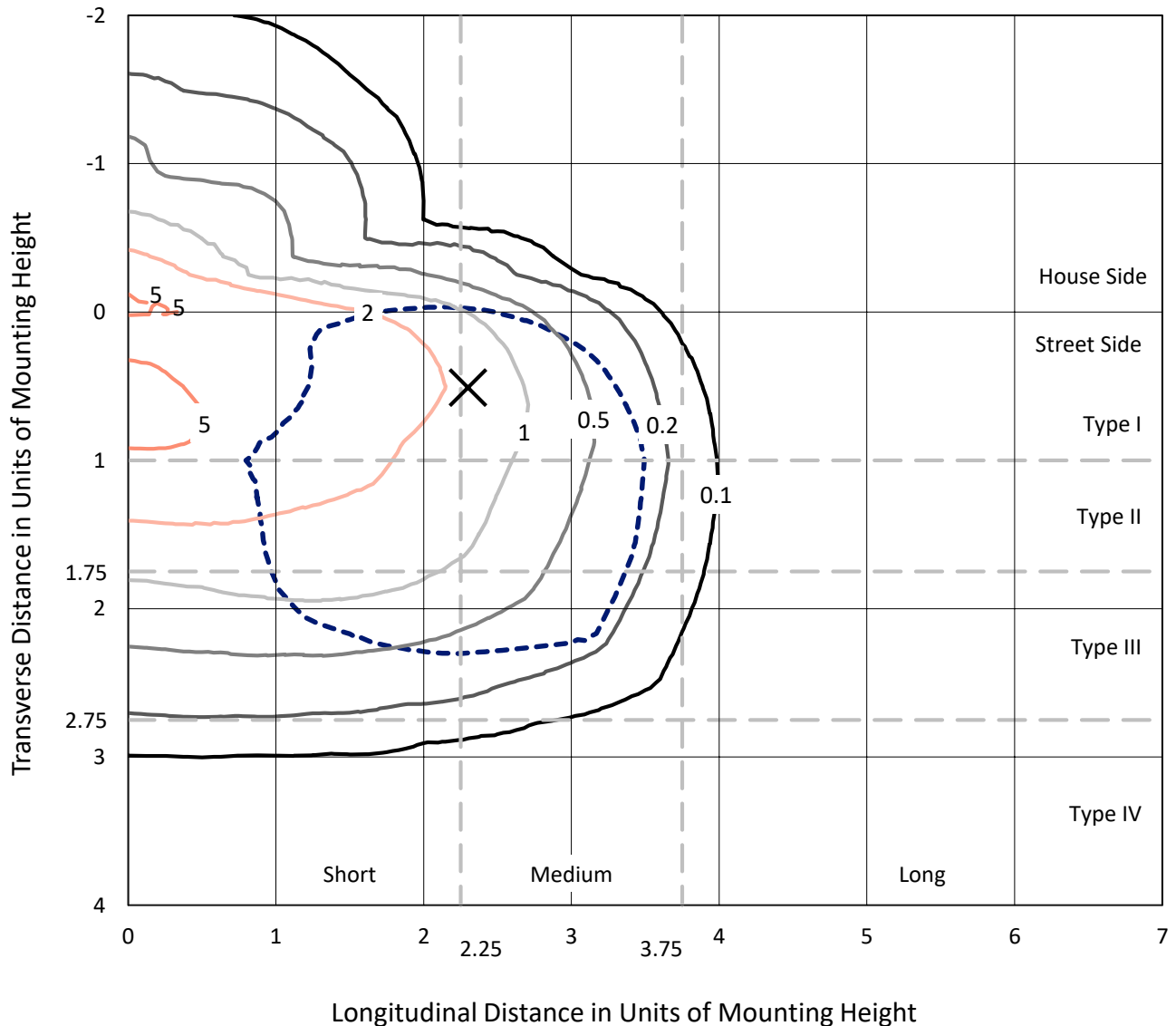
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

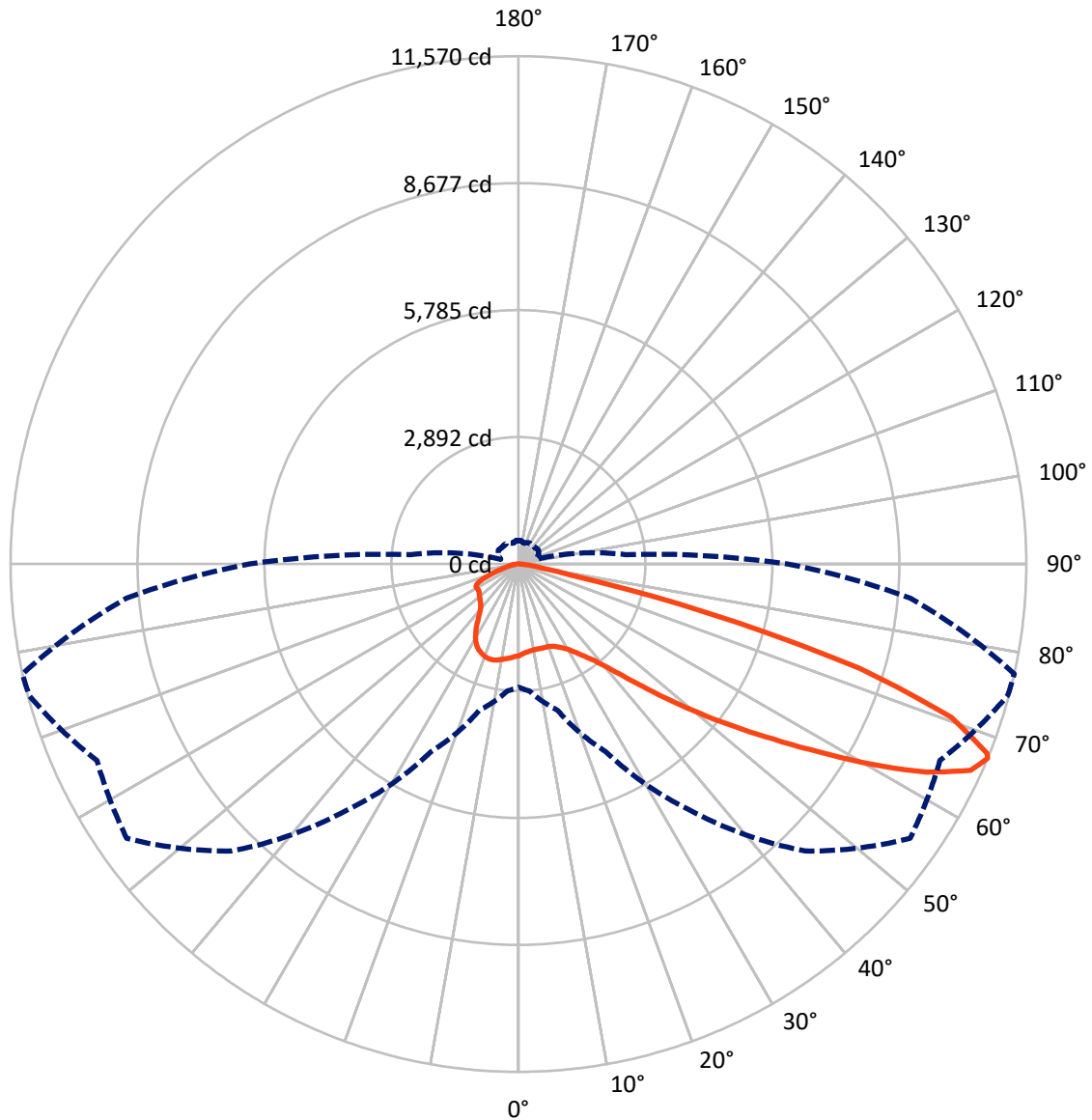
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.3 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	2441.1	0.0	2441.1
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	11763.9	0.0	11763.9
	% Fixture	82.8	0.0	82.8
Total	Lumens	14205.0	0.0	14205.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.2	1.3
10°-20°	515.7	3.6
20°-30°	876.1	6.2
30°-40°	1401.6	9.9
40°-50°	2157.8	15.2
50°-60°	2993.7	21.1
60°-70°	3993.4	28.1
70°-80°	1900.5	13.4
80°-90°	180.0	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°	14205.0	100.0
0°-180°	14205.0	100.0



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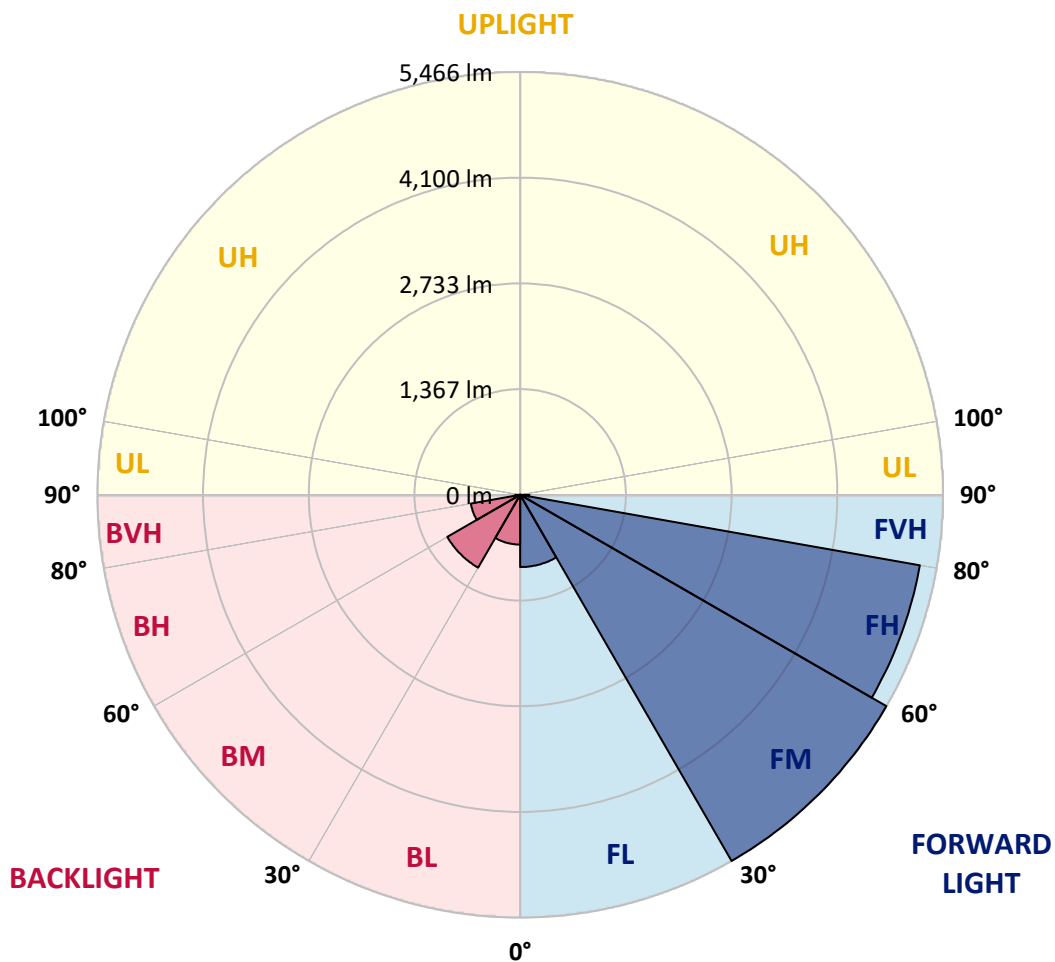
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	934.1	6.6			
FM	(30°-60°)	5466.2	38.5			
FH	(60°-80°)	5246.7	36.9			G3/7500
FVH	(80°-90°)	116.9	0.8			G2/225
BL	(0°-30°)	643.9	4.5	B2/1000		
BM	(30°-60°)	1086.9	7.7	B2/2500		
BH	(60°-80°)	647.3	4.6	B2/1000		G2/1000
BVH	(80°-90°)	63.1	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°	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5
2.5°	1874.7	1883.3	1884.3	1909.7	1921.1	1950.1	1981.8	2009.8	2034.4	2043.1	2058.9
5°	1686.7	1686.7	1689.4	1706.1	1738.5	1785.0	1850.9	1922.9	1998.4	2016.9	2063.3
7.5°	1588.4	1590.1	1591.8	1608.5	1634.0	1675.2	1741.2	1839.5	1965.0	1995.8	2077.4
10°	1597.1	1594.5	1585.7	1582.3	1592.8	1619.0	1676.1	1777.1	1936.9	1984.4	2102.9
12.5°	1734.9	1729.7	1700.8	1658.6	1620.0	1610.3	1649.8	1745.5	1923.8	1984.4	2146.0
15°	1971.2	1974.7	1917.6	1829.8	1728.9	1660.3	1655.0	1734.1	1919.4	1989.7	2195.9
17.5°	2278.6	2280.3	2201.2	2073.8	1906.3	1764.8	1691.1	1734.1	1919.4	1994.9	2244.2
20°	2605.2	2592.9	2503.2	2343.5	2125.7	1909.7	1756.9	1744.7	1924.7	2002.9	2289.9
22.5°	2885.3	2873.8	2779.8	2612.1	2362.8	2081.0	1845.7	1779.8	1953.6	2035.3	2354.0
25°	3130.2	3137.2	3046.0	2857.1	2598.9	2274.1	1978.2	1860.6	2014.2	2094.0	2433.0
27.5°	3427.8	3414.6	3309.4	3129.3	2842.1	2474.3	2144.2	1962.3	2086.3	2165.3	2529.5
30°	3772.1	3765.9	3623.7	3438.4	3110.0	2698.1	2308.4	2072.2	2180.1	2262.7	2650.8
32.5°	4190.0	4189.1	4036.4	3809.0	3411.1	2951.1	2502.4	2222.2	2317.2	2400.5	2811.4
35°	4663.2	4662.4	4504.3	4204.1	3758.0	3231.2	2730.7	2404.9	2486.6	2574.5	3002.9
37.5°	4991.6	4986.3	4903.8	4612.3	4141.6	3556.8	3016.1	2650.8	2678.8	2777.2	3233.8
40°	5054.9	5086.5	5157.6	4985.5	4560.5	3918.6	3302.3	2915.1	2941.4	3067.8	3524.4
42.5°	4986.3	5027.6	5263.8	5312.0	4979.3	4356.8	3660.6	3281.1	3314.6	3471.8	3865.9
45°	4926.7	4962.6	5258.6	5493.0	5392.9	4834.5	4107.4	3728.1	3791.3	3986.3	4255.8
47.5°	4824.7	4858.2	5155.0	5525.5	5629.0	5294.5	4645.7	4265.5	4374.3	4610.6	4700.1
50°	4819.5	4834.5	5013.6	5416.6	5710.7	5644.1	5241.9	4894.1	5061.1	5333.1	5191.8
52.5°	4686.1	4790.5	4953.0	5242.8	5712.5	5847.6	5829.3	5583.4	5840.7	6141.8	5730.9
55°	3869.4	3989.8	4751.0	5157.6	5701.9	6022.4	6365.7	6316.6	6718.8	7035.6	6334.9
57.5°	3613.2	3664.0	4168.0	5183.0	5789.8	6311.3	6902.2	7104.2	7723.2	8069.1	7059.4
60°	3542.8	3596.5	4051.3	5195.3	6027.6	6837.3	7630.2	7993.6	8904.2	9271.1	7882.1
62.5°	3464.8	3534.1	4060.0	5206.8	6445.7	7615.2	8595.9	8958.5	10116.7	10444.2	8653.1
65°	3236.5	3328.6	3897.6	5134.7	6903.1	8591.6	9872.6	9964.8	11118.5	11326.6	9118.3
67°	2803.6	2904.5	3451.6	4718.5	6861.0	9249.2	10893.7	10594.4	11544.4	11569.9	8967.4
67.5°	2666.6	2771.1	3300.6	4545.7	6740.7	9335.2	11074.7	10681.2	11540.9	11512.8	8826.8
70°	1795.6	1913.2	2337.3	3337.5	5407.0	8688.1	11030.7	10413.5	10784.1	10461.8	7583.6
72.5°	891.2	894.7	1166.0	1828.1	3275.9	6231.5	9201.8	8908.5	8741.6	8133.3	5565.0
75°	429.4	437.2	550.5	807.8	1381.1	3217.1	6275.3	6011.0	5118.1	4431.5	2785.1
77.5°	327.5	335.3	427.7	526.0	576.1	1049.2	3108.2	2512.1	1483.0	1184.4	784.9
80°	252.9	267.9	360.8	403.9	381.2	420.5	977.3	769.2	576.9	529.5	389.0
82.5°	197.5	206.3	306.4	306.4	263.5	281.9	454.8	444.3	358.2	323.1	208.9
85°	139.5	157.2	246.8	228.3	173.0	174.7	272.1	260.8	184.4	148.4	81.7
87.5°	62.3	79.9	175.6	149.3	92.2	71.1	111.5	95.7	72.9	56.2	37.8
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°	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5	2090.5
2.5°	2076.5	2090.5	2112.5	2125.7	2143.3	2150.4	2157.3	2169.6	2179.3	2176.7	2172.2
5°	2095.8	2119.6	2146.8	2155.6	2155.6	2146.8	2141.5	2142.4	2139.8	2138.1	2132.8
7.5°	2124.0	2156.4	2175.8	2167.0	2139.8	2105.5	2073.1	2053.7	2035.3	2023.9	2027.4
10°	2163.5	2199.5	2200.4	2161.7	2096.7	2022.2	1958.0	1916.8	1877.3	1859.8	1864.9
12.5°	2220.5	2256.5	2225.8	2142.4	2028.3	1911.5	1793.8	1708.7	1632.3	1613.8	1608.5
15°	2282.1	2310.1	2241.6	2101.1	1929.9	1737.6	1540.1	1412.8	1327.5	1312.7	1307.5
17.5°	2335.6	2351.4	2233.7	2027.4	1774.5	1471.7	1241.5	1155.5	1138.0	1146.6	1146.6
20°	2382.9	2377.8	2199.5	1913.2	1529.5	1176.6	1043.1	1042.3	1065.8	1087.8	1089.6
22.5°	2442.8	2401.3	2145.1	1743.8	1237.1	981.7	958.9	981.7	1008.0	1032.6	1035.1
25°	2513.7	2427.8	2072.2	1502.3	994.9	891.2	900.9	920.1	936.8	956.2	957.1
27.5°	2585.0	2447.9	1969.4	1218.7	863.1	833.3	843.8	851.8	856.1	868.4	868.4
30°	2667.4	2463.8	1821.0	976.4	802.5	782.3	776.1	772.6	776.1	792.8	793.7
32.5°	2771.1	2491.9	1618.1	837.6	774.3	746.3	714.7	697.2	709.4	739.3	744.5
35°	2888.7	2525.2	1374.9	782.3	764.7	728.7	670.9	643.5	647.9	675.2	679.6
37.5°	3036.2	2568.3	1135.3	769.2	774.3	727.0	650.6	611.9	592.7	593.6	592.7
40°	3225.1	2611.3	945.6	772.6	795.4	731.4	641.0	580.3	540.1	541.8	545.2
42.5°	3422.6	2639.4	825.4	783.2	821.1	737.6	637.4	549.7	514.5	544.5	571.6
45°	3653.4	2631.4	763.0	792.8	840.3	740.2	624.3	546.1	517.2	606.7	657.6
47.5°	3918.6	2597.2	727.8	797.2	845.6	739.3	614.6	557.6	539.2	694.5	752.5
50°	4206.7	2543.7	699.8	790.1	842.9	735.8	625.2	571.6	547.8	713.9	758.6
52.5°	4521.9	2494.6	670.9	774.3	829.8	725.2	638.3	565.5	523.4	657.6	691.9
55°	4895.0	2483.1	638.3	747.2	807.8	713.9	631.2	546.1	496.0	583.0	604.1
57.5°	5321.7	2554.2	596.1	713.9	777.9	691.1	614.6	535.6	486.4	530.3	541.8
60°	5863.4	2711.4	551.4	678.7	741.0	656.8	599.7	538.3	489.0	522.5	525.1
62.5°	6286.7	2852.7	511.0	635.7	691.9	615.5	583.9	540.9	496.9	533.0	528.6
65°	6440.4	2783.4	461.0	571.6	622.5	569.9	561.9	542.7	496.9	539.2	529.5
67°	6125.2	2452.4	413.6	507.5	556.7	529.5	540.9	535.6	488.1	538.3	521.6
67.5°	5975.0	2335.6	401.3	496.9	539.2	517.2	535.6	532.1	485.5	536.5	517.2
70°	4927.6	1675.2	338.9	417.1	451.3	455.7	503.1	509.2	464.5	503.9	468.8
72.5°	3505.9	1048.4	292.4	323.1	364.4	389.9	459.3	478.5	436.3	438.2	409.2
75°	1734.9	562.8	260.8	249.4	283.7	324.8	400.4	436.3	395.2	365.3	355.5
77.5°	585.6	318.7	220.4	201.1	220.4	260.8	332.0	381.2	348.6	309.0	302.9
80°	302.9	231.9	172.0	161.5	173.8	201.9	259.9	317.0	297.7	299.4	246.8
82.5°	188.7	141.4	123.7	122.9	131.7	154.5	191.3	257.3	255.5	218.6	158.9
85°	87.9	81.7	79.1	81.7	84.4	87.9	124.7	183.6	194.0	117.7	104.6
87.5°	36.9	36.0	31.6	34.2	37.8	36.9	50.0	78.2	108.9	73.8	67.6
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)