

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: P196733

Luminaire Tested: **NAV-AF-05-D-UNV-T2-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196733
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-T2-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18755.4 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

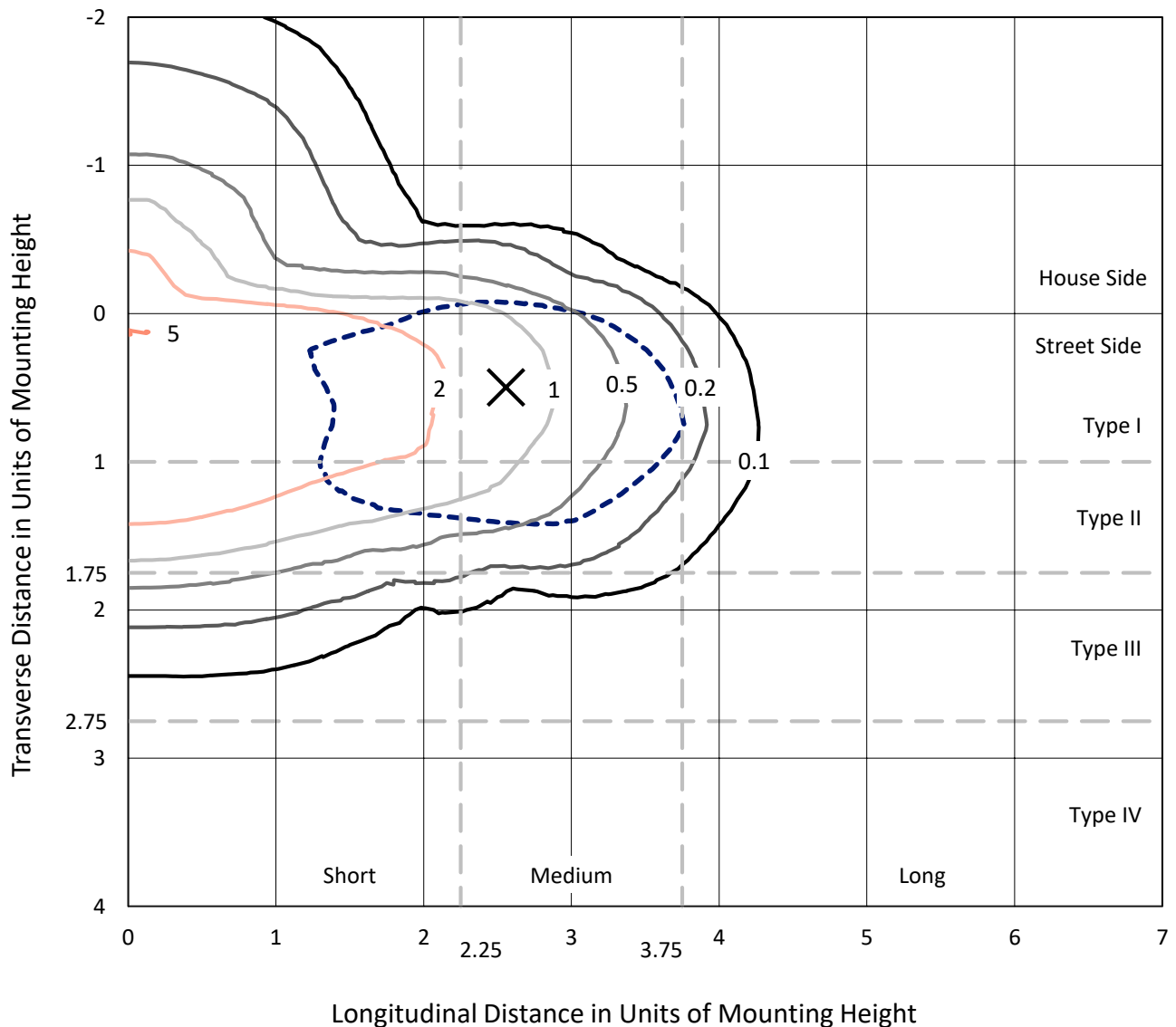
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

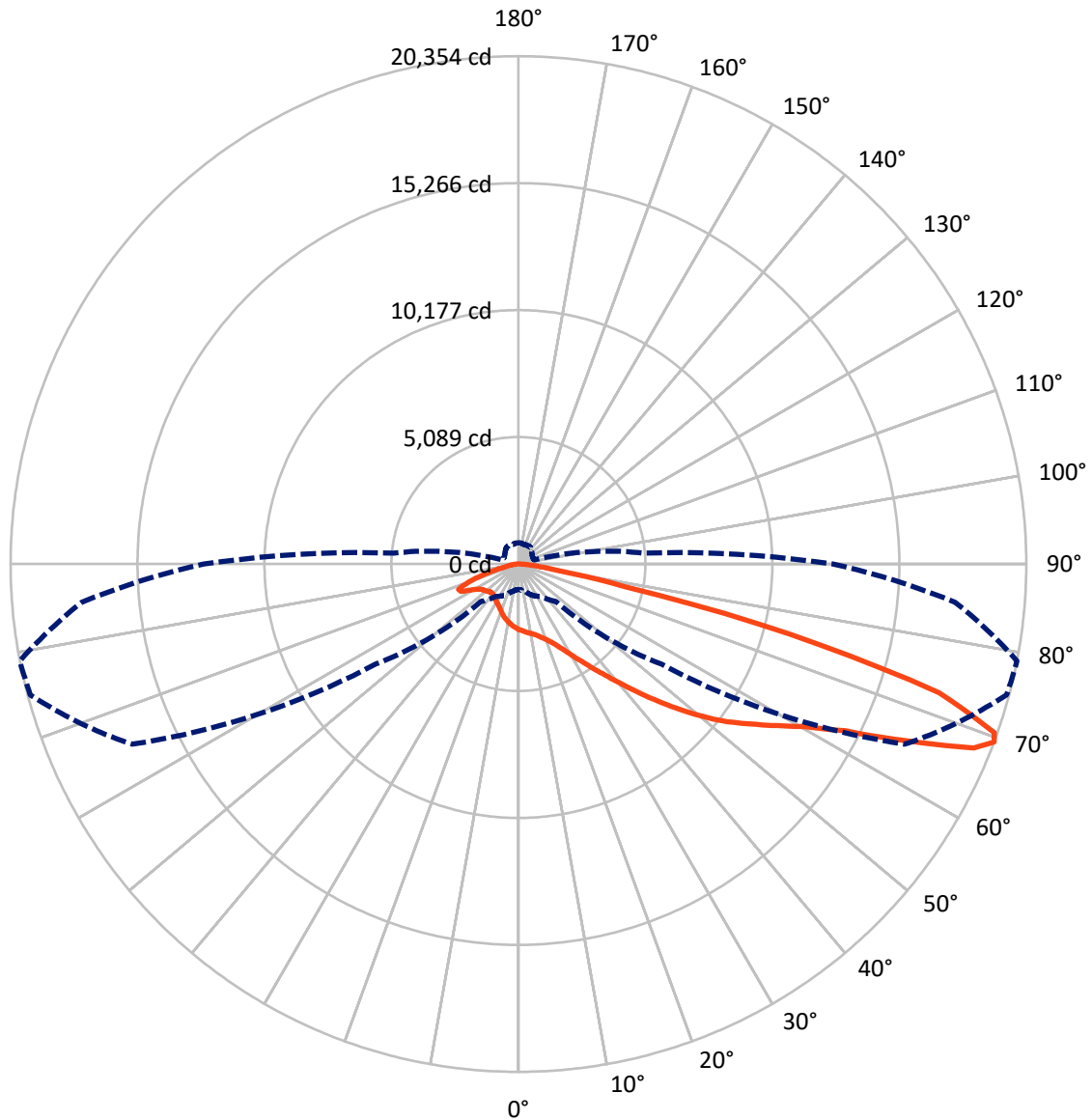
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3528.2	0.0	3528.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	15227.2	0.0	15227.2
	% Fixture	81.2	0.0	81.2
Total	Lumens	18755.4	0.0	18755.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.0	1.3
10°-20°	699.5	3.7
20°-30°	1155.9	6.2
30°-40°	1871.8	10.0
40°-50°	2990.1	15.9
50°-60°	4282.2	22.8
60°-70°	4770.9	25.4
70°-80°	2386.8	12.7
80°-90°	354.2	1.9
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°	18755.4	100.0
0°-180°	18755.4	100.0

Coefficient of Utilization



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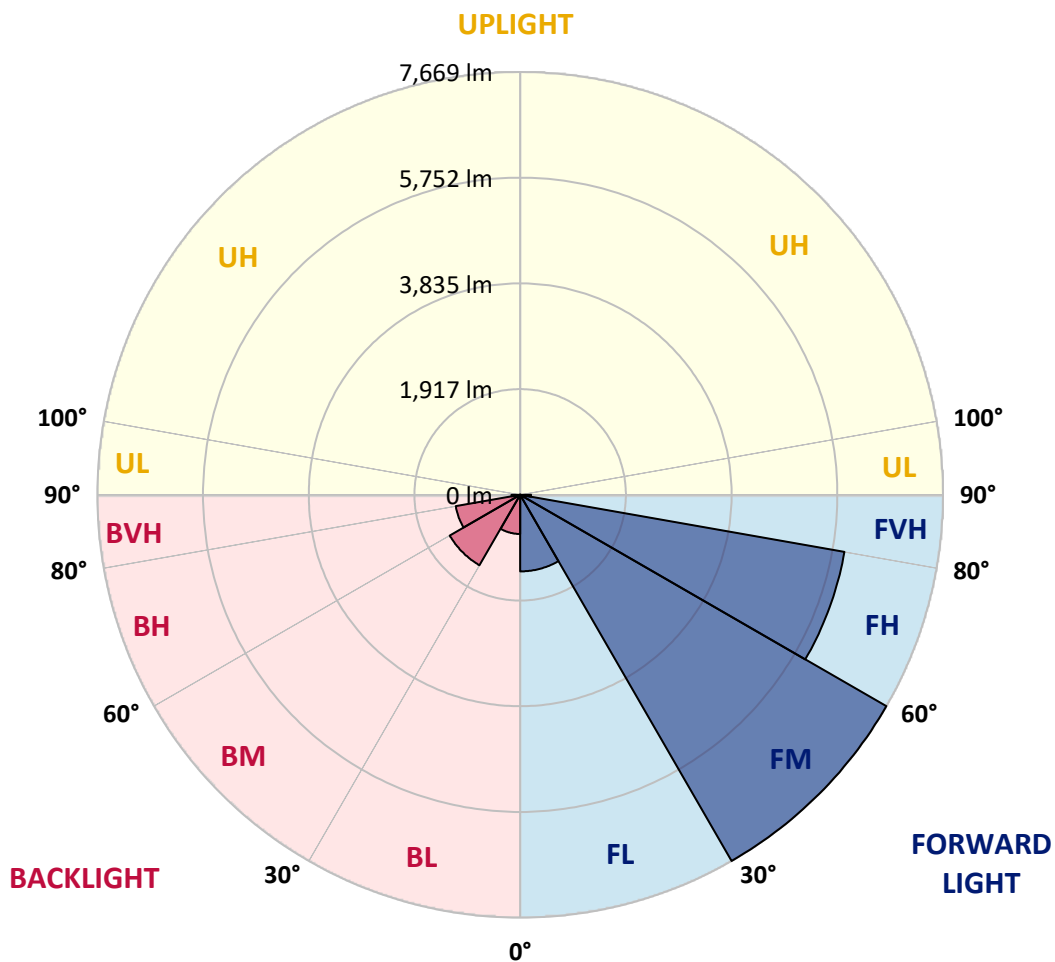
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1388.7	7.4			
FM (30°-60°)	7669.1	40.9			
FH (60°-80°)	5971.5	31.8			G3/7500
FVH (80°-90°)	197.9	1.1			G2/225
BL (0°-30°)	710.8	3.8	B2/1000		
BM (30°-60°)	1474.9	7.9	B2/2500		
BH (60°-80°)	1186.3	6.3	B3/2500		G3/2500
BVH (80°-90°)	156.3	0.8			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9
2.5°	2889.7	2883.6	2882.3	2863.9	2854.1	2833.2	2784.2	2733.7	2687.2	2662.6	2636.9
5°	3131.4	3119.2	3113.1	3082.3	3055.3	3008.7	2931.4	2851.6	2768.2	2725.3	2673.7
7.5°	3277.4	3278.7	3278.7	3254.1	3227.1	3170.6	3072.5	2963.3	2839.3	2783.0	2701.9
10°	3289.7	3290.9	3309.4	3315.5	3321.6	3292.1	3201.3	3063.8	2904.3	2830.8	2725.3
12.5°	3168.2	3176.8	3207.5	3251.7	3314.2	3346.1	3306.8	3171.9	2987.8	2898.2	2769.4
15°	3004.9	3013.6	3052.8	3120.3	3221.0	3327.7	3382.8	3295.8	3097.1	2991.5	2834.4
17.5°	2925.2	2935.0	2962.0	3016.0	3114.2	3257.8	3423.4	3428.3	3225.9	3104.4	2911.8
20°	2887.1	2894.6	2928.9	2973.1	3047.9	3185.4	3427.1	3568.2	3379.3	3238.1	3006.3
22.5°	2974.4	2976.8	2993.9	3018.5	3068.8	3174.3	3424.6	3712.9	3570.7	3406.2	3127.6
25°	3229.6	3213.7	3201.3	3170.6	3182.9	3257.8	3463.9	3867.6	3816.1	3627.1	3289.7
27.5°	3531.4	3529.0	3497.1	3425.9	3380.5	3428.3	3575.6	4040.6	4116.7	3908.1	3502.0
30°	3867.6	3868.9	3835.6	3748.5	3656.6	3661.5	3753.5	4240.6	4476.3	4246.8	3763.3
32.5°	4219.8	4241.9	4180.5	4093.4	3981.7	3946.1	4008.7	4482.4	4892.2	4646.8	4066.4
35°	4640.7	4644.3	4576.9	4449.2	4337.6	4281.1	4338.8	4784.3	5371.9	5116.7	4435.7
37.5°	5077.5	5079.9	5010.0	4846.7	4705.7	4668.8	4732.7	5151.0	5879.9	5651.7	4870.1
40°	5434.5	5460.3	5405.0	5251.6	5109.4	5087.2	5179.3	5590.4	6529.0	6284.8	5386.7
42.5°	5839.5	5868.9	5802.6	5643.1	5530.2	5522.8	5666.4	6090.9	7174.4	7017.4	5972.0
45°	6295.8	6337.6	6245.6	6066.4	5970.7	6132.7	6141.3	6645.5	7918.0	7837.0	6630.8
47.5°	6794.1	6828.3	6753.6	6560.9	6456.6	6691.0	6606.4	7245.6	8721.7	8715.6	7343.8
50°	7178.2	7216.1	7223.5	7138.9	7029.6	7059.1	7116.8	7876.3	9523.0	9618.7	8081.3
52.5°	7108.2	7145.0	7310.6	7532.8	7708.2	7632.1	7702.1	8546.3	10297.2	10499.7	8781.8
55°	6543.7	6563.4	6873.8	7401.4	8148.7	8512.0	8516.9	9275.1	11033.4	11316.8	9446.9
57.5°	5526.6	5528.9	5932.7	6710.6	7892.3	9082.5	9802.7	10190.5	11801.6	12220.0	10271.5
60°	3910.5	3920.3	4390.4	5407.6	6973.3	9013.8	11185.6	11828.6	12691.2	13234.8	11334.1
62.5°	2321.5	2343.6	2698.2	3514.3	5179.3	8130.3	12002.7	14742.8	14001.7	14723.1	13034.7
65°	1510.5	1528.9	1741.1	2151.0	3060.3	5915.6	11734.1	17564.9	16481.4	17064.3	15479.0
67.5°	1163.2	1178.0	1344.9	1592.7	1877.4	3197.7	9381.9	18156.3	19499.9	19681.5	17541.7
69°	1022.1	1034.3	1157.0	1395.1	1580.4	2116.7	6991.6	17082.6	20254.6	20354.0	17567.4
70°	947.3	957.1	1072.4	1278.6	1451.6	1689.5	5351.1	15836.0	19978.5	20232.5	17060.7
72.5°	780.4	789.0	871.3	1029.4	1186.5	1203.7	2370.6	11563.6	16822.6	17634.9	14437.3
75°	651.5	656.4	710.4	825.8	960.7	958.3	1211.0	6549.9	10265.4	11233.5	8914.4
77.5°	543.6	547.3	582.8	654.0	758.3	754.7	852.8	2827.1	4532.6	4373.1	3068.8
80°	479.7	482.3	500.6	519.0	585.3	581.6	631.9	1298.2	1844.2	1704.3	1160.8
82.5°	364.4	369.3	462.6	471.1	454.0	438.0	440.6	755.8	944.8	860.2	623.4
85°	206.2	207.4	296.9	347.2	395.1	296.9	285.9	390.2	466.3	408.6	272.4
87.5°	92.0	95.7	142.4	164.4	213.5	174.3	163.3	165.6	201.2	166.8	107.9
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°	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9	2631.9
2.5°	2612.4	2591.5	2542.4	2492.1	2441.8	2409.9	2376.7	2346.2	2333.8	2332.5	2309.3
5°	2623.5	2574.2	2462.7	2339.9	2223.4	2132.6	2056.5	2007.4	1959.6	1951.0	1930.2
7.5°	2627.0	2547.3	2365.7	2169.4	1991.5	1866.3	1790.2	1757.1	1733.8	1727.6	1720.3
10°	2625.8	2513.0	2257.8	1989.1	1786.6	1692.1	1663.8	1671.2	1681.1	1686.0	1686.0
12.5°	2645.5	2497.0	2149.7	1819.7	1654.0	1608.7	1630.7	1668.7	1698.2	1710.5	1712.9
15°	2681.1	2487.2	2030.7	1672.4	1560.8	1571.8	1625.8	1681.1	1722.8	1741.1	1746.1
17.5°	2725.3	2473.7	1893.4	1550.9	1506.8	1544.8	1614.8	1684.7	1735.0	1758.3	1762.1
20°	2774.3	2454.1	1751.0	1460.1	1458.9	1506.8	1576.7	1655.3	1709.3	1735.0	1733.8
22.5°	2840.6	2435.6	1618.4	1393.9	1406.1	1450.3	1508.0	1579.3	1629.5	1652.8	1647.8
25°	2928.9	2418.5	1499.5	1335.0	1346.1	1375.5	1416.0	1470.0	1505.6	1517.8	1509.2
27.5°	3047.9	2405.1	1406.1	1281.1	1279.8	1293.3	1317.8	1347.2	1364.4	1360.9	1347.2
30°	3193.9	2391.4	1337.5	1233.2	1215.9	1214.8	1225.8	1243.0	1254.1	1231.9	1220.9
32.5°	3357.2	2368.2	1276.1	1191.5	1160.8	1149.7	1154.7	1178.0	1223.3	1201.3	1192.7
35°	3549.9	2341.2	1214.8	1146.0	1122.7	1101.9	1105.6	1155.9	1293.3	1277.4	1268.7
37.5°	3781.7	2316.7	1158.3	1097.0	1095.8	1069.9	1067.5	1127.7	1311.6	1277.4	1270.0
40°	4060.3	2311.7	1108.0	1043.0	1062.6	1052.8	1044.2	1081.0	1209.8	1139.9	1126.5
42.5°	4396.5	2333.8	1071.2	991.4	1024.6	1047.9	1032.0	1040.4	1093.2	1030.8	1019.7
45°	4789.1	2394.0	1044.2	946.0	984.1	1044.2	1025.8	1018.4	1027.0	992.6	985.3
47.5°	5246.7	2500.7	1025.8	908.1	946.0	1034.3	1023.3	1008.6	1004.9	985.3	980.4
50°	5736.3	2644.3	1013.5	873.6	911.7	1017.2	1022.1	1001.3	995.2	986.5	984.1
52.5°	6222.4	2800.1	998.8	844.2	883.5	996.3	1023.3	993.9	985.3	980.4	978.0
55°	6705.7	2962.0	971.9	818.5	862.6	971.9	1022.1	984.1	974.3	974.3	974.3
57.5°	7332.7	3208.7	936.3	797.6	835.7	939.9	1006.2	973.1	959.6	960.7	962.0
60°	8238.2	3622.2	896.9	774.2	800.0	903.1	981.5	953.4	937.5	942.4	943.6
62.5°	9751.2	4344.9	842.9	741.1	763.1	863.8	949.7	926.4	911.7	920.3	921.5
65°	11768.5	5219.8	771.8	699.4	725.2	819.7	909.2	894.5	878.6	899.4	898.2
67.5°	12999.1	5476.3	697.0	655.2	688.4	773.0	858.9	852.8	841.8	878.6	876.1
69°	12595.5	5012.4	654.0	627.0	662.5	741.1	827.0	824.6	815.9	851.5	849.1
70°	11968.5	4579.3	627.0	608.6	649.1	721.5	806.2	806.2	797.6	828.3	822.0
72.5°	9613.8	3396.5	564.5	562.0	602.4	667.5	749.7	755.8	750.9	762.0	755.8
75°	5644.4	2046.7	503.0	510.5	546.1	609.8	687.1	692.0	687.1	685.9	687.1
77.5°	1957.2	917.8	444.1	455.2	485.8	550.8	618.4	628.2	620.9	612.3	614.7
80°	765.7	533.7	380.3	396.3	422.1	484.7	549.7	555.8	544.7	543.6	533.7
82.5°	460.1	325.1	295.8	321.4	353.4	420.8	474.8	472.4	463.8	514.2	450.3
85°	200.1	180.4	216.0	241.7	257.7	315.3	401.2	390.2	369.3	325.1	317.8
87.5°	81.0	93.3	119.0	143.5	154.6	203.7	274.9	265.1	268.7	220.8	219.6
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)