

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: P195870

Luminaire Tested: **NAV-AF-06-D-UNV-T4FT-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195870
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-T4FT-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23921 lumens
Efficiency: N/A
Efficacy: 123.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 193
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

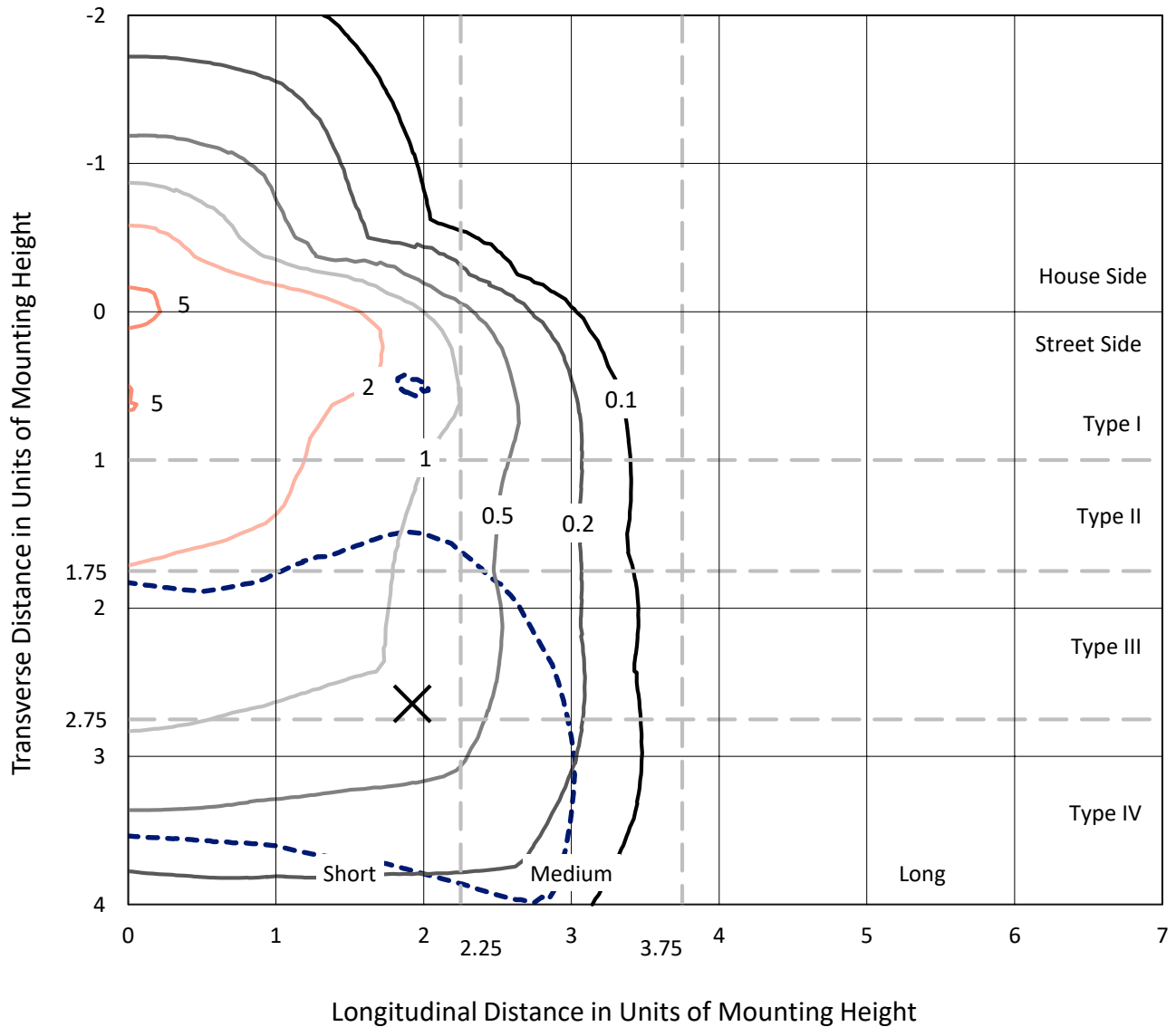


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Iso-Footcandle Lines of Horizontal Illumination

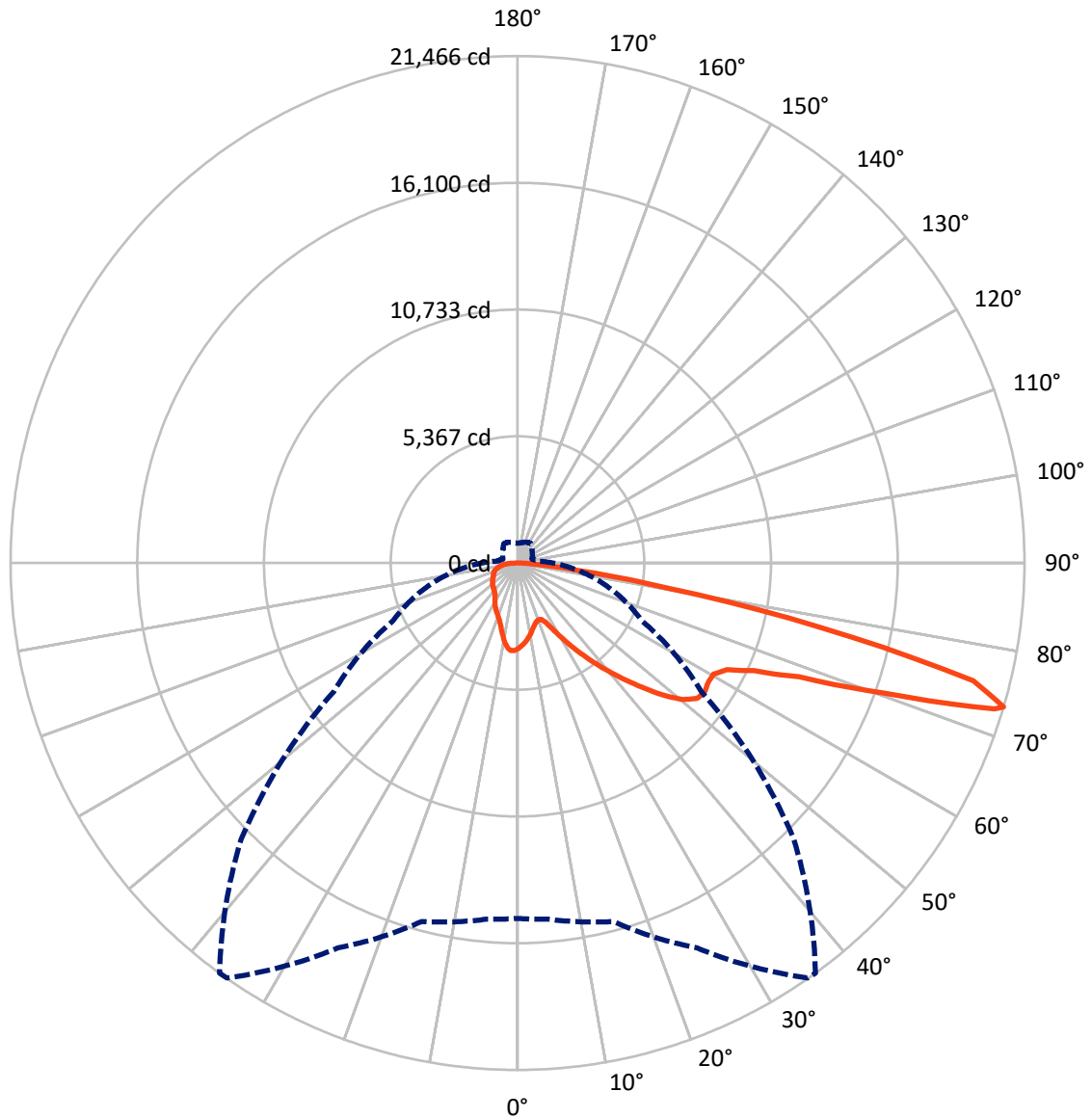
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4612.7	0.0	4612.7
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	19308.3	0.0	19308.3
	% Fixture	80.7	0.0	80.7
Total	Lumens	23921.0	0.0	23921.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.1	1.4
10°-20°	826.6	3.5
20°-30°	1325.2	5.5
30°-40°	2192.0	9.2
40°-50°	3391.8	14.2
50°-60°	4540.6	19.0
60°-70°	5931.5	24.8
70°-80°	4845.0	20.3
80°-90°	539.3	2.3
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°	23921.0	100.0
0°-180°	23921.0	100.0



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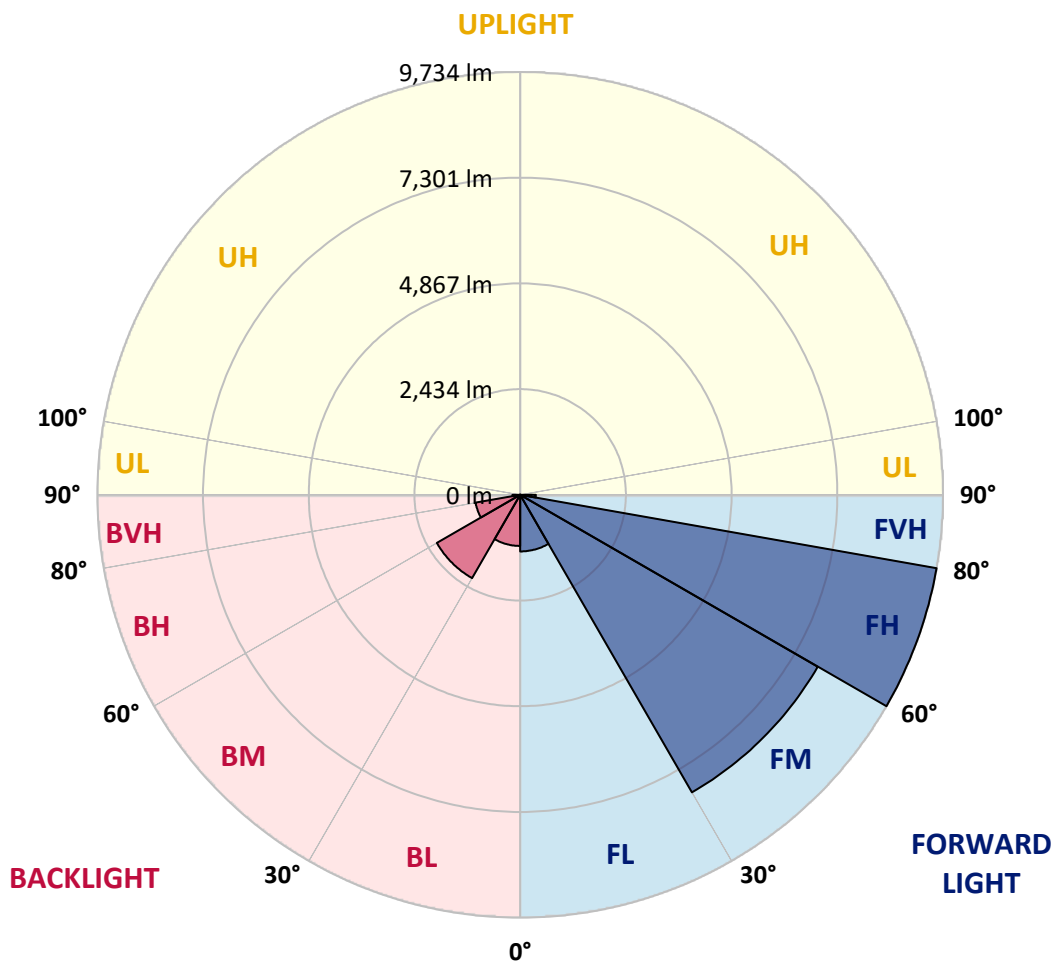
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1303.4	5.4			
FM	(30°-60°)	7909.1	33.1			
FH	(60°-80°)	9734.1	40.7			G4/12000
FVH	(80°-90°)	361.7	1.5			G3/500
BL	(0°-30°)	1177.4	4.9	B3/2500		
BM	(30°-60°)	2215.3	9.3	B2/2500		
BH	(60°-80°)	1042.4	4.4	B3/2500		G3/2500
BVH	(80°-90°)	177.6	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3
2.5°	3485.0	3494.1	3495.7	3506.3	3506.3	3504.8	3509.3	3527.6	3536.7	3558.0	3576.2
5°	3313.3	3323.9	3328.5	3346.7	3369.5	3371.0	3387.8	3422.7	3456.2	3503.3	3542.8
7.5°	3120.3	3132.4	3144.6	3182.6	3216.0	3219.1	3251.0	3307.2	3351.3	3409.0	3480.5
10°	2933.3	2936.4	2948.5	2997.2	3041.2	3045.8	3091.4	3155.2	3214.5	3295.0	3375.6
12.5°	2779.8	2788.9	2785.9	2822.4	2860.4	2863.4	2924.2	3004.8	3091.4	3182.6	3278.3
15°	2726.6	2725.1	2693.2	2691.7	2708.4	2711.4	2770.7	2864.9	2962.2	3074.7	3197.8
17.5°	2763.1	2750.9	2667.3	2615.7	2605.0	2608.1	2652.1	2755.5	2858.8	2988.0	3135.5
20°	2963.7	2916.6	2720.5	2595.9	2561.0	2561.0	2586.8	2670.4	2784.4	2934.8	3120.3
22.5°	3439.4	3366.5	2948.5	2726.6	2603.5	2591.4	2571.6	2635.4	2761.6	2942.4	3182.6
25°	4038.3	4003.3	3366.5	3074.7	2820.9	2781.3	2650.6	2673.4	2808.7	3024.5	3352.8
27.5°	4593.0	4532.2	3915.1	3580.8	3222.1	3161.3	2884.7	2792.0	2921.2	3176.5	3599.0
30°	4916.7	4875.7	4479.0	4159.8	3732.8	3655.3	3258.6	3026.0	3121.8	3427.3	3948.6
32.5°	5269.3	5245.0	5044.4	4754.1	4286.0	4196.3	3741.9	3407.5	3428.8	3760.1	4369.6
35°	5611.3	5643.2	5529.2	5316.5	4881.8	4798.2	4390.9	3906.0	3807.2	4134.0	4819.5
37.5°	6021.7	6029.3	5957.8	5819.5	5508.0	5439.6	5103.7	4438.0	4219.1	4532.2	5254.1
40°	6840.9	6720.8	6441.1	6331.7	6146.3	6103.7	5720.7	4925.9	4602.1	4941.1	5664.5
42.5°	7726.9	7540.0	7102.3	6922.9	6848.5	6809.0	6234.4	5251.1	4960.8	5349.9	6067.3
45°	8441.3	8289.3	7860.7	7638.8	7647.9	7584.1	6682.8	5541.4	5349.9	5760.3	6517.1
47.5°	9145.0	8891.2	8410.9	8379.0	8485.4	8391.1	7111.4	5831.7	5755.7	6207.1	6967.0
50°	9190.6	8959.5	8765.0	9020.3	9202.7	9085.7	7500.5	6211.6	6176.7	6748.2	7547.6
52.5°	8635.8	8602.4	8898.8	9328.9	9631.3	9526.5	7818.1	6602.3	6606.8	7424.5	8254.3
55°	8433.7	8391.1	8746.8	9275.7	9684.5	9622.2	8055.2	7043.0	7084.0	8245.2	9012.7
57.5°	8774.1	8667.7	8737.7	9175.4	9559.9	9523.4	8301.5	7532.4	7606.9	9190.6	9713.4
60°	9830.4	9613.1	9242.2	9324.3	9564.5	9543.2	8654.1	8078.0	8202.7	10175.4	10157.2
62.5°	11412.6	11166.4	10411.0	10046.2	9993.1	9952.0	9236.2	8748.3	8810.6	10886.7	9898.8
65°	13148.3	12883.8	11985.6	11388.3	11075.2	10987.0	10175.4	9556.9	9166.2	10885.2	8892.7
67.5°	15096.7	14817.1	13921.9	13351.9	13013.0	12862.5	11699.8	10210.4	9050.7	9964.2	7116.0
70°	17092.3	16826.3	16416.0	16615.1	16764.0	16534.5	14101.2	10427.7	8220.9	7812.1	4778.4
72.5°	16033.0	16011.7	16323.2	18210.9	21081.9	21127.5	16499.6	9813.7	6351.5	4643.2	2547.3
73°	15049.6	15139.3	15716.8	17975.3	21451.2	21466.4	16546.7	9496.1	5831.7	4000.3	2237.2
75°	7796.9	8404.8	10547.8	14575.4	19863.0	19934.4	14586.1	7188.9	3475.9	2222.0	1507.7
77.5°	2088.3	2060.9	3398.4	7100.8	13242.5	13148.3	9216.4	3480.5	1665.8	1393.7	1057.8
80°	715.9	725.0	1156.6	2597.4	6181.3	6401.6	4000.3	1518.3	1095.8	971.2	749.3
82.5°	364.8	376.9	604.9	1104.9	2585.3	2530.6	1287.3	893.7	734.1	589.7	419.5
85°	194.5	200.6	332.8	573.0	948.4	959.0	452.9	477.2	466.6	334.4	206.7
87.5°	95.8	98.8	159.6	252.3	351.1	338.9	158.1	206.7	229.5	188.5	114.0
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°	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3	3623.3
2.5°	3599.0	3599.0	3618.8	3652.2	3676.5	3699.3	3714.5	3738.8	3752.5	3751.0	3749.5
5°	3574.7	3589.9	3629.4	3670.5	3697.8	3716.0	3716.0	3726.7	3726.7	3722.1	3716.0
7.5°	3518.5	3544.3	3602.1	3638.5	3646.1	3626.4	3586.9	3556.5	3518.5	3498.7	3491.1
10°	3428.8	3462.2	3535.2	3551.9	3512.4	3442.5	3346.7	3264.6	3191.7	3158.3	3147.6
12.5°	3340.6	3384.7	3453.1	3427.3	3333.0	3196.3	3048.8	2936.4	2854.3	2822.4	2811.7
15°	3267.7	3320.9	3374.1	3293.5	3129.4	2939.4	2776.8	2671.9	2609.6	2585.3	2579.2
17.5°	3219.1	3281.4	3299.6	3149.1	2921.2	2708.4	2564.0	2495.6	2468.2	2457.6	2454.6
20°	3222.1	3292.0	3247.9	3009.3	2720.5	2506.2	2410.5	2390.7	2390.7	2390.7	2389.2
22.5°	3305.7	3366.5	3226.7	2878.6	2527.5	2336.0	2295.0	2311.7	2323.9	2323.9	2322.3
25°	3478.9	3512.4	3241.9	2752.5	2346.7	2188.6	2190.1	2222.0	2232.7	2232.7	2229.6
27.5°	3743.4	3716.0	3269.2	2612.6	2168.8	2054.8	2076.1	2105.0	2112.6	2108.0	2106.5
30°	4074.7	3965.3	3292.0	2448.5	2001.6	1930.2	1948.5	1965.2	1959.1	1948.5	1946.9
32.5°	4445.6	4219.1	3278.3	2264.6	1854.2	1801.0	1811.7	1820.8	1811.7	1785.8	1785.8
35°	4813.4	4448.6	3203.9	2064.0	1737.2	1676.4	1674.9	1703.8	1702.2	1671.8	1673.4
37.5°	5135.6	4629.5	3059.5	1880.1	1636.9	1585.2	1591.3	1609.5	1618.6	1577.6	1573.1
40°	5416.8	4754.1	2855.8	1723.5	1556.3	1559.4	1542.7	1513.8	1503.1	1484.9	1481.9
42.5°	5681.2	4840.7	2640.0	1592.8	1515.3	1550.3	1494.0	1425.6	1396.7	1413.5	1424.1
45°	5941.1	4938.0	2431.8	1484.9	1463.6	1522.9	1445.4	1369.4	1336.0	1343.6	1354.2
47.5°	6258.8	5073.3	2181.0	1369.4	1384.6	1472.7	1415.0	1332.9	1282.8	1252.4	1243.2
50°	6676.7	5269.3	1855.7	1244.8	1301.0	1418.0	1389.1	1279.7	1225.0	1164.2	1149.0
52.5°	7199.6	5454.8	1527.5	1144.5	1232.6	1370.9	1346.6	1234.1	1167.2	1094.3	1082.1
55°	7720.9	5480.6	1244.8	1057.8	1155.1	1307.1	1294.9	1197.6	1103.4	1044.1	1032.0
57.5°	8085.6	5235.9	1054.8	984.9	1080.6	1228.0	1247.8	1153.6	1050.2	1004.6	997.0
60°	8091.7	4650.8	939.3	936.2	1024.4	1159.6	1199.2	1101.9	1016.8	986.4	980.3
62.5°	7448.8	3748.0	864.8	899.8	983.3	1103.4	1162.7	1073.0	1009.2	997.0	990.9
65°	6243.6	2769.2	805.5	866.3	945.4	1056.3	1132.3	1063.9	1006.1	1001.6	997.0
67.5°	4609.7	1898.3	755.4	823.8	902.8	1007.7	1103.4	1050.2	987.9	1006.1	1000.1
70°	2899.9	1267.6	708.3	775.1	846.6	951.4	1065.4	1025.9	965.1	954.5	934.7
72.5°	1636.9	916.5	652.0	712.8	773.6	877.0	1013.7	984.9	913.4	870.9	851.1
73°	1478.8	867.8	638.3	697.6	756.9	861.8	1001.6	972.7	898.2	851.1	832.9
75°	1082.1	709.8	576.0	635.3	687.0	791.8	943.8	911.9	831.4	775.1	763.0
77.5°	784.2	547.1	495.5	548.7	594.3	694.6	857.2	820.7	741.7	711.3	699.1
80°	565.4	414.9	410.4	462.0	501.6	603.4	764.5	726.5	650.5	740.2	720.4
82.5°	337.4	266.0	300.9	358.7	399.7	506.1	664.2	620.1	547.1	553.2	471.2
85°	161.1	150.5	186.9	235.6	264.5	346.5	553.2	518.3	437.7	358.7	351.1
87.5°	71.4	68.4	89.7	104.9	141.3	208.2	378.4	335.9	317.6	190.0	148.9
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)