

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: P195538

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-7050-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195538  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
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-AFL-7050-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20197 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

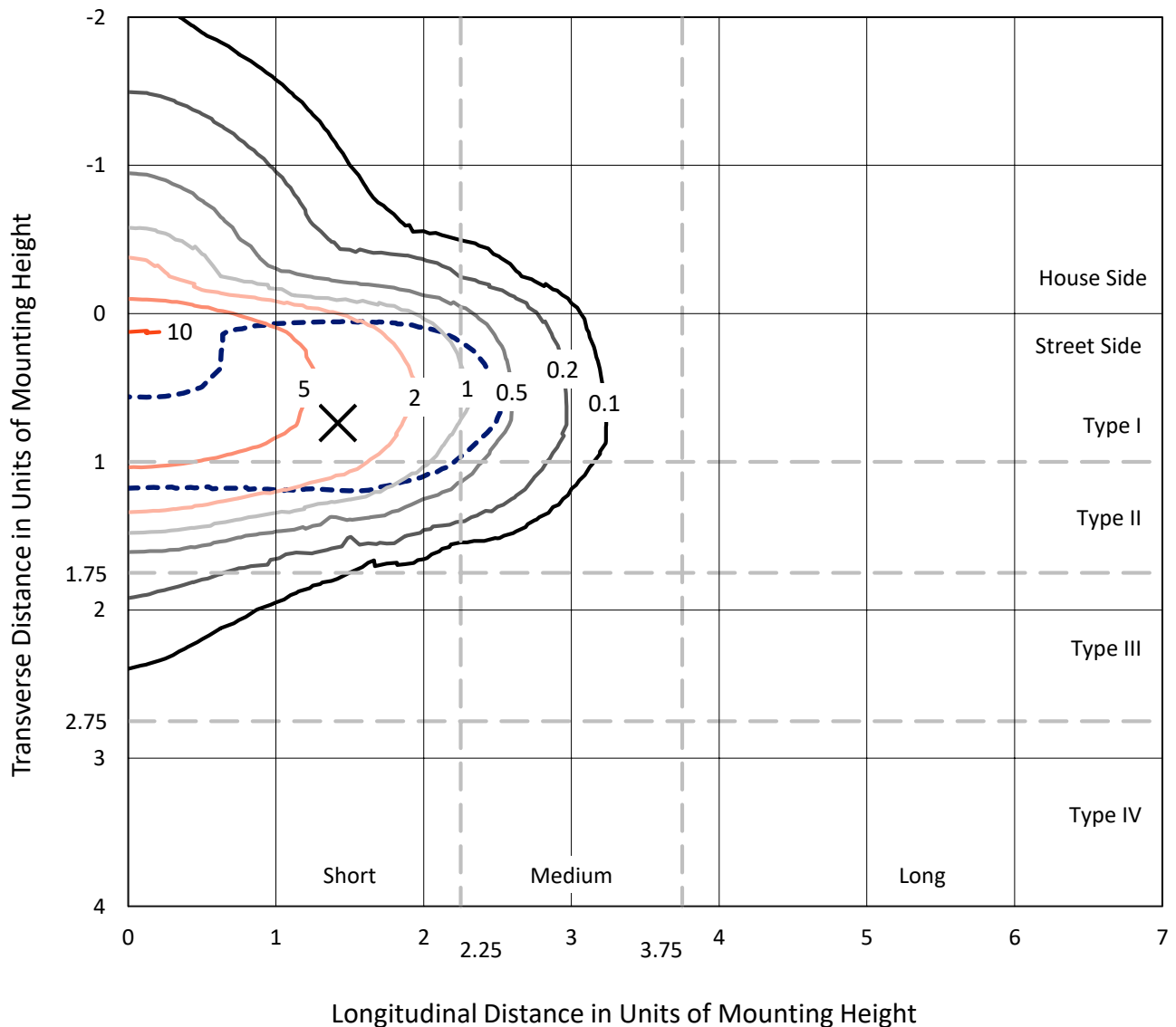
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

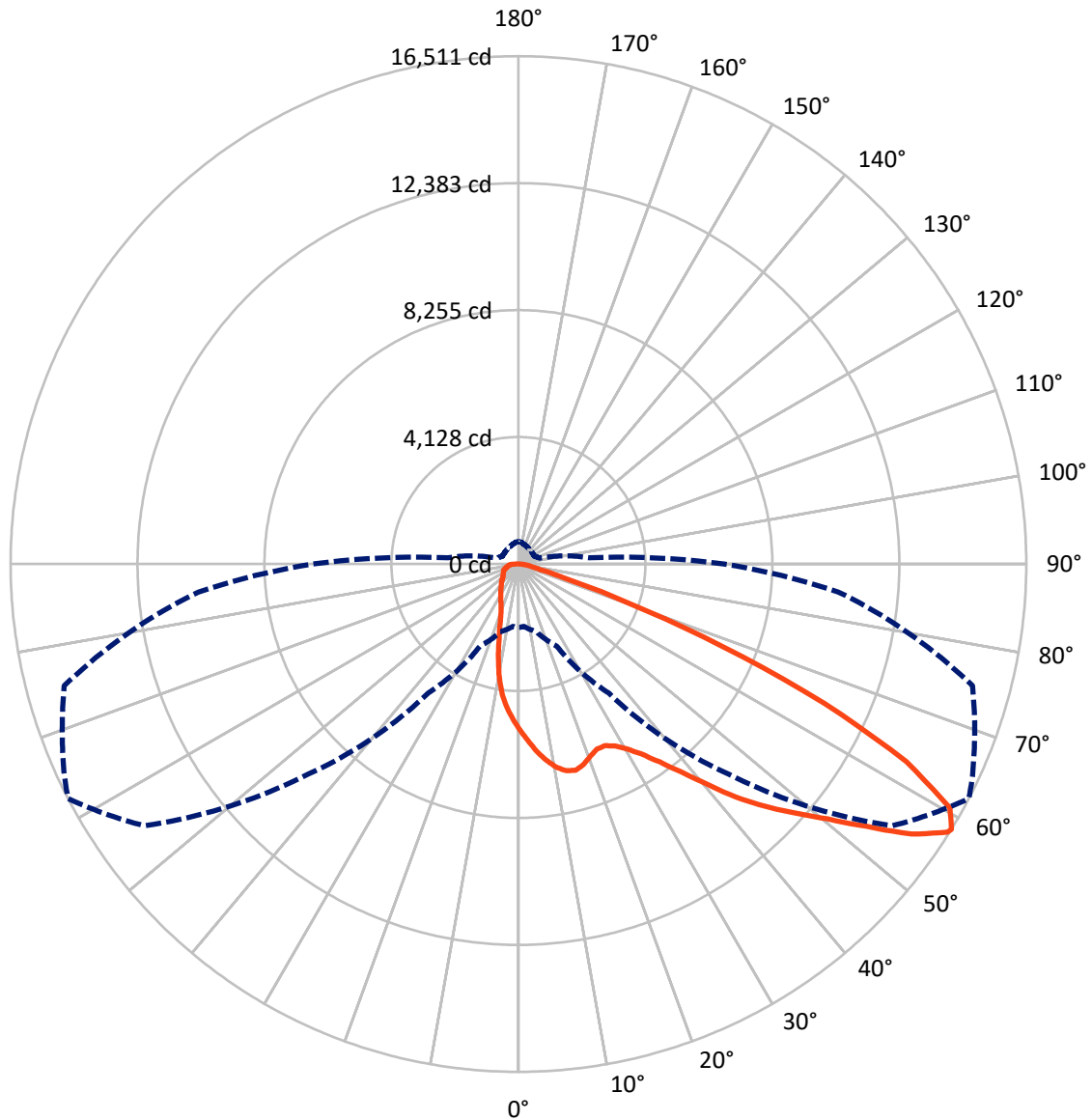
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.1 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3101.0	0.0	3101.0
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	17096.0	0.0	17096.0
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	20197.0	0.0	20197.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	482.0	2.4
10°-20°	1216.4	6.0
20°-30°	1971.4	9.8
30°-40°	3147.5	15.6
40°-50°	4578.1	22.7
50°-60°	4790.6	23.7
60°-70°	2920.5	14.5
70°-80°	816.7	4.0
80°-90°	273.8	1.4
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°	20197.0	100.0
0°-180°	20197.0	100.0

**Coefficient of Utilization**



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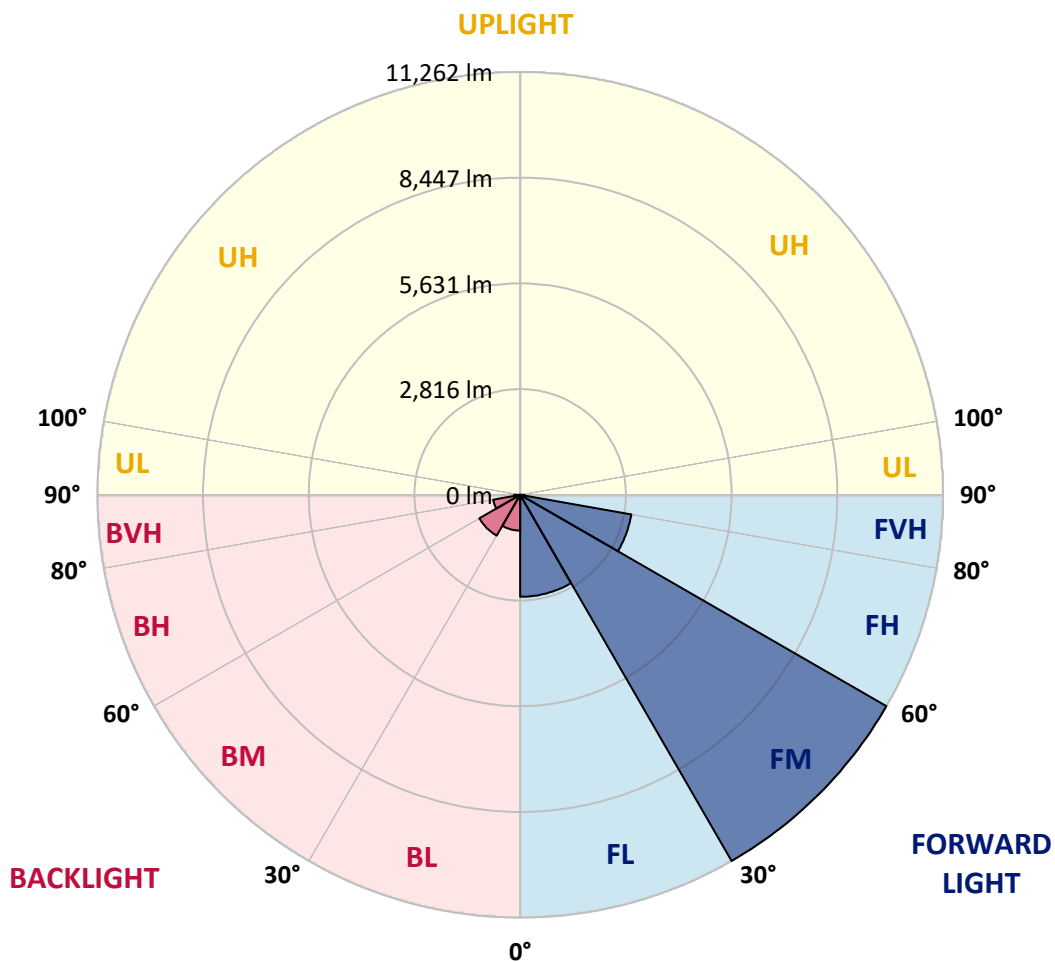
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2716.6	13.5			
FM	(30°-60°)	11262.1	55.8			
FH	(60°-80°)	3007.2	14.9			G2/5000
FVH	(80°-90°)	110.1	0.5			G2/225
BL	(0°-30°)	953.3	4.7	B2/1000		
BM	(30°-60°)	1254.1	6.2	B2/2500		
BH	(60°-80°)	730.0	3.6	B2/1000		G2/1000
BVH	(80°-90°)	163.6	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5
2.5°	6120.8	6117.0	6065.3	6031.2	5990.8	5897.4	5804.0	5734.5	5699.2	5564.1	5432.9
5°	6627.0	6611.8	6582.8	6546.2	6493.2	6375.8	6228.1	6100.6	6050.1	5810.3	5569.2
7.5°	6359.4	6383.4	6473.0	6574.0	6680.0	6687.6	6582.8	6431.3	6375.8	6055.2	5701.7
10°	5618.4	5608.3	5720.7	5917.6	6267.2	6613.1	6786.0	6711.6	6653.5	6287.4	5834.3
12.5°	5393.7	5391.2	5410.1	5460.6	5680.3	6154.9	6734.3	6895.8	6875.6	6533.6	5975.6
15°	5461.9	5464.4	5463.2	5469.5	5530.1	5756.0	6445.2	6957.7	7020.8	6777.2	6119.5
17.5°	5680.3	5671.4	5643.7	5613.4	5622.2	5703.0	6133.4	6851.7	7041.0	6994.3	6240.7
20°	6017.3	6017.3	5942.8	5858.2	5802.7	5820.4	6003.4	6669.9	6947.6	7178.6	6331.6
22.5°	6440.2	6446.5	6336.7	6182.7	6056.4	6008.5	6077.9	6534.8	6834.0	7349.0	6412.4
25°	6965.3	6964.0	6803.7	6582.8	6383.4	6268.5	6267.2	6541.1	6798.6	7548.4	6497.0
27.5°	7615.3	7556.0	7369.2	7054.9	6773.4	6597.9	6518.4	6700.2	6873.1	7793.3	6610.6
30°	8348.7	8288.1	8043.3	7639.3	7258.1	7001.9	6870.6	6975.4	7100.3	8105.1	6782.2
32.5°	9074.5	9088.4	8800.6	8344.9	7855.2	7494.2	7299.8	7364.2	7451.2	8486.3	7014.5
35°	10137.4	10136.1	9760.0	9190.7	8608.8	8108.9	7862.8	7896.8	7976.4	9024.1	7340.2
37.5°	10930.1	10917.5	10675.1	10171.5	9516.3	8916.8	8560.8	8565.8	8634.0	9699.4	7769.3
40°	11010.9	11008.4	11007.1	10935.1	10487.0	9921.5	9475.9	9383.8	9411.6	10416.3	8225.0
42.5°	10393.6	10485.8	10750.9	11157.3	11282.3	10985.6	10564.0	10358.3	10297.7	11239.4	8707.2
45°	9513.8	9560.5	10025.0	10938.9	11682.4	11985.4	11668.5	11234.3	11130.8	12039.6	9099.8
47.5°	9104.8	9084.6	9353.5	10349.4	11643.3	12780.6	12803.3	12091.4	11915.9	12730.1	9434.3
50°	8227.6	8201.0	8540.6	9482.3	11216.6	13175.7	13968.4	13025.5	12701.1	13386.5	9737.2
52.5°	6479.3	6454.0	6909.7	8122.8	10262.3	13028.0	14950.5	14171.6	13618.8	14018.9	10020.0
55°	4216.0	4218.5	4652.8	5903.7	8304.5	12167.1	15411.2	15495.8	14876.0	14651.3	10248.5
57.5°	2321.3	2299.9	2609.1	3377.9	5713.1	10211.9	15027.5	16450.1	16126.9	15194.1	10413.8
58°	2063.8	2038.6	2277.2	2939.9	5122.3	9660.2	14834.3	16510.6	16287.2	15283.7	10437.8
60°	1470.6	1427.6	1391.0	1657.4	2951.2	6965.3	13546.8	16118.1	16333.9	15462.9	10415.1
62.5°	1239.6	1190.3	1059.1	1049.0	1389.8	3406.9	10713.0	14155.2	14759.9	15050.2	10049.0
65°	1151.2	1102.0	929.0	867.2	942.9	1470.6	6624.5	10930.1	11738.0	13615.0	9127.6
67.5°	1088.1	1030.0	844.5	763.7	778.8	879.8	2811.1	7148.3	8084.9	10617.0	7322.5
70°	1031.3	966.9	777.6	684.2	671.5	669.0	1098.2	3732.6	4635.1	6947.6	4905.2
72.5°	966.9	903.8	718.2	618.5	590.7	542.8	660.2	1542.5	2114.3	3405.6	2248.1
75°	873.5	821.7	652.6	564.2	516.3	440.5	487.2	739.7	911.4	1303.9	1043.9
77.5°	768.7	727.1	585.7	518.8	454.4	359.8	372.4	501.1	563.0	734.6	604.6
80°	544.0	559.2	511.2	456.9	400.1	290.3	286.5	367.3	403.9	493.6	406.5
82.5°	374.9	386.3	416.6	361.0	323.1	225.9	210.8	255.0	273.9	297.9	196.9
85°	267.6	260.0	289.1	258.8	237.3	143.9	135.1	161.6	172.9	181.8	94.7
87.5°	162.8	161.6	166.6	133.8	123.7	73.2	66.9	77.0	82.0	79.5	45.4
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°	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5	5392.5
2.5°	5383.6	5321.8	5186.7	5078.2	4960.8	4871.1	4781.5	4731.0	4675.5	4643.9	4640.1
5°	5443.0	5316.7	5028.9	4761.3	4486.1	4238.7	3996.4	3817.1	3670.7	3587.4	3582.4
7.5°	5508.6	5310.4	4866.1	4402.8	3913.1	3425.8	2995.4	2691.2	2495.5	2404.6	2398.3
10°	5559.1	5283.9	4667.9	3947.2	3170.9	2527.1	2135.8	1956.5	1897.2	1882.1	1879.5
12.5°	5619.7	5265.0	4418.0	3362.7	2423.6	1923.7	1805.1	1793.7	1806.3	1813.9	1815.2
15°	5676.5	5228.4	4081.0	2715.2	1897.2	1719.2	1721.8	1745.7	1771.0	1782.3	1783.6
17.5°	5703.0	5138.7	3637.9	2139.6	1659.9	1627.1	1656.1	1687.7	1710.4	1719.2	1719.2
20°	5703.0	4994.8	3124.1	1733.1	1536.2	1542.5	1577.9	1601.8	1606.9	1599.3	1595.5
22.5°	5679.0	4816.9	2624.3	1512.2	1435.2	1459.2	1487.0	1470.6	1411.2	1365.8	1357.0
25°	5657.5	4606.1	2143.4	1377.1	1346.9	1378.4	1367.1	1254.7	1163.8	1117.1	1109.5
27.5°	5622.2	4351.1	1741.9	1266.1	1261.0	1286.3	1173.9	1065.4	1019.9	994.7	989.6
30°	5613.4	4074.6	1457.9	1167.6	1176.4	1141.1	1012.3	977.0	966.9	953.0	946.7
32.5°	5642.4	3798.2	1280.0	1086.8	1095.7	979.5	930.3	935.4	934.1	916.4	910.1
35°	5721.9	3529.3	1166.3	1013.6	988.4	877.3	883.6	898.7	898.7	877.3	869.7
37.5°	5860.8	3279.4	1094.4	951.8	864.7	824.3	840.7	860.9	860.9	845.7	839.4
40°	6008.5	3035.8	1040.1	902.5	786.4	787.7	804.1	819.2	825.5	828.1	823.0
42.5°	6142.3	2783.3	982.1	849.5	751.1	759.9	767.5	778.8	805.3	823.0	820.5
45°	6220.5	2529.6	918.9	783.9	727.1	730.9	728.3	748.5	780.1	806.6	806.6
47.5°	6292.5	2321.3	867.2	718.2	703.1	703.1	695.5	715.7	744.7	776.3	778.8
50°	6360.6	2186.3	830.6	667.7	672.8	669.0	666.5	685.4	724.5	762.4	768.7
52.5°	6430.1	2140.8	797.8	631.1	641.2	636.2	638.7	665.2	709.4	748.5	754.8
55°	6527.3	2169.9	763.7	605.9	610.9	609.7	619.8	650.1	689.2	728.3	730.9
57.5°	6647.2	2275.9	734.6	587.0	581.9	589.5	605.9	634.9	672.8	719.5	723.3
58°	6671.2	2301.1	729.6	581.9	575.6	587.0	603.4	631.1	670.3	719.5	723.3
60°	6707.8	2390.8	717.0	571.8	554.1	574.3	594.5	622.3	665.2	725.8	733.4
62.5°	6531.0	2408.4	713.2	560.5	531.4	556.7	580.6	612.2	660.2	747.3	763.7
65°	5918.8	2226.7	686.7	541.5	512.5	542.8	568.0	604.6	675.3	811.6	819.2
67.5°	4751.2	1849.2	622.3	512.5	491.0	526.4	557.9	604.6	681.6	821.7	826.8
70°	3266.8	1389.8	541.5	480.9	465.8	506.2	554.1	618.5	660.2	777.6	762.4
72.5°	1706.6	966.9	474.6	444.3	435.5	488.5	590.7	604.6	634.9	725.8	710.7
75°	859.6	657.6	417.8	402.7	401.4	482.2	661.4	581.9	608.4	682.9	715.7
77.5°	507.4	515.0	372.4	363.5	369.8	470.8	662.7	559.2	578.1	628.6	664.0
80°	347.1	425.4	337.0	334.5	339.6	433.0	610.9	531.4	542.8	594.5	632.4
82.5°	195.7	234.8	295.4	311.8	309.3	354.7	527.6	483.5	497.3	703.1	743.5
85°	94.7	141.4	247.4	291.6	263.8	236.0	429.2	429.2	433.0	503.7	510.0
87.5°	35.3	63.1	166.6	231.0	184.3	141.4	291.6	304.2	338.3	348.4	356.0
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)