

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: P196007

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196007
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-AFL-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28322.4 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

Input Watts (W): 320
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

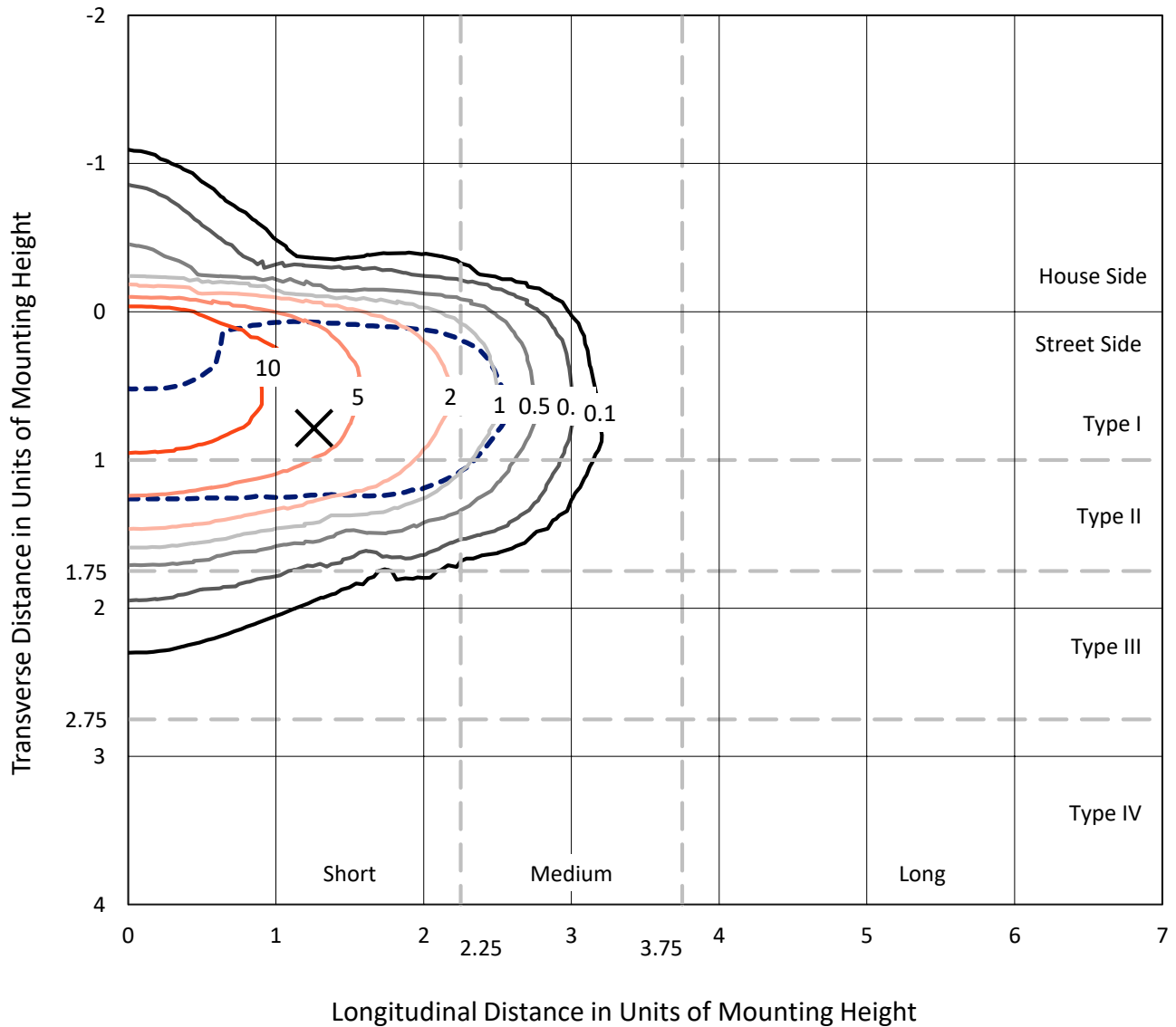


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Iso-Footcandle Lines of Horizontal Illumination

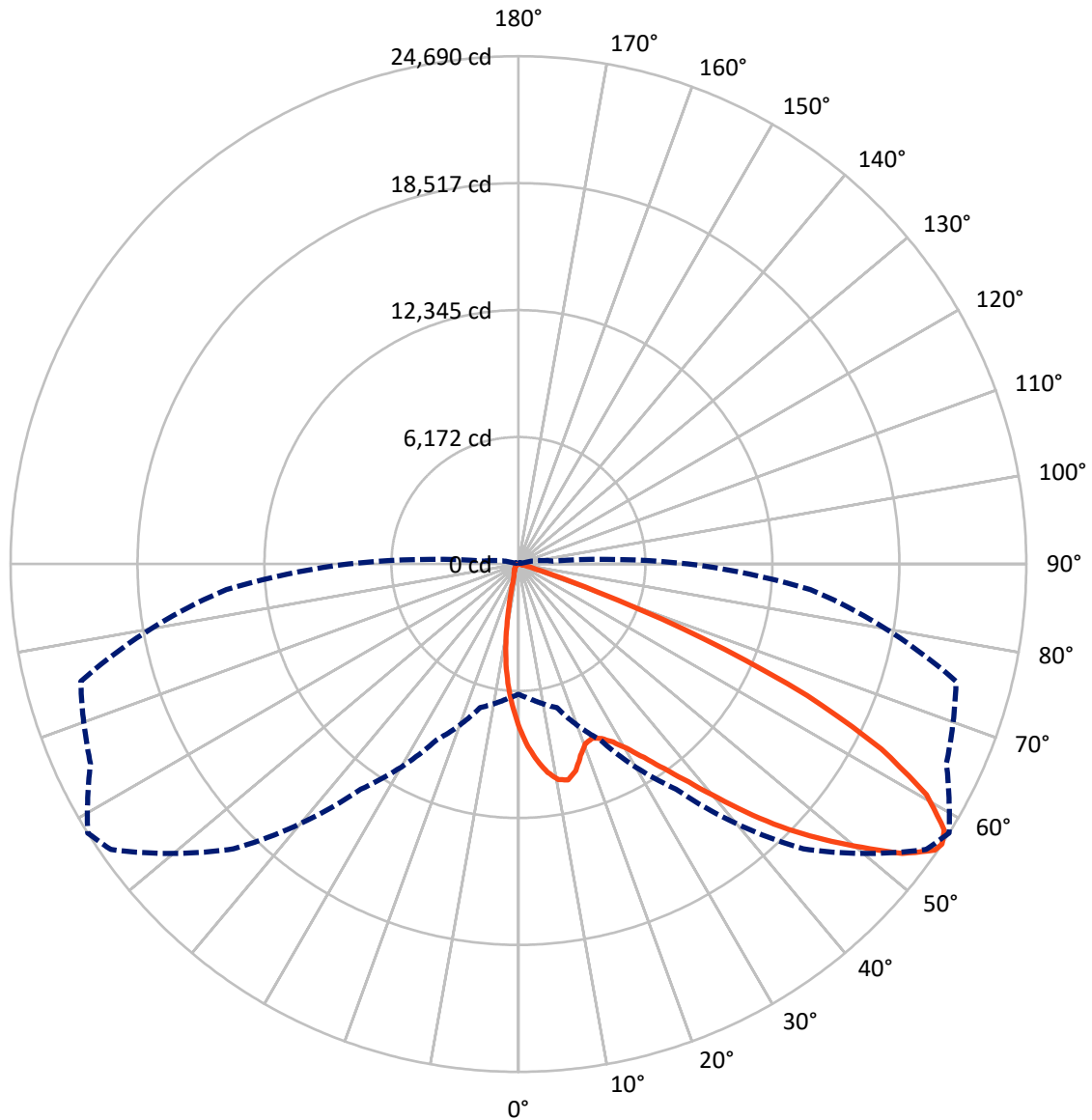
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 15.9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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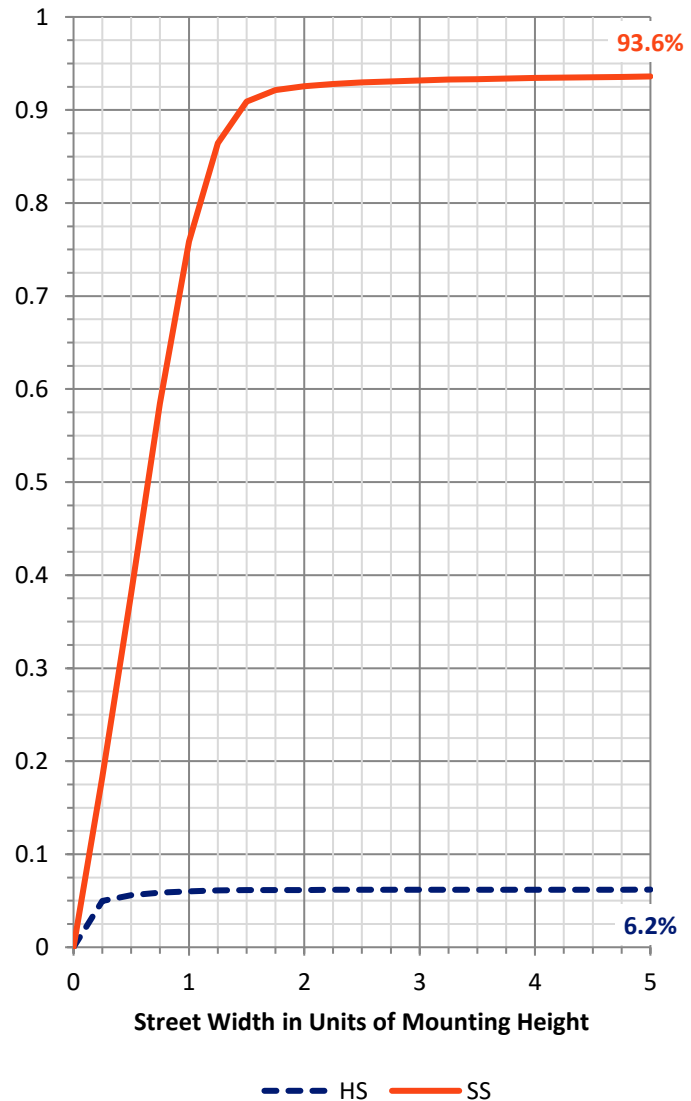
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1767.9	0.0	1767.9
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	26554.5	0.0	26554.5
	% Fixture	93.8	0.0	93.8
Total	Lumens	28322.4	0.0	28322.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	684.1	2.4
10°-20°	1591.7	5.6
20°-30°	2678.3	9.5
30°-40°	4586.3	16.2
40°-50°	6920.9	24.4
50°-60°	7194.0	25.4
60°-70°	4038.6	14.3
70°-80°	553.5	2.0
80°-90°	75.0	0.3
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°	28322.4	100.0
0°-180°	28322.4	100.0

Coefficient of Utilization



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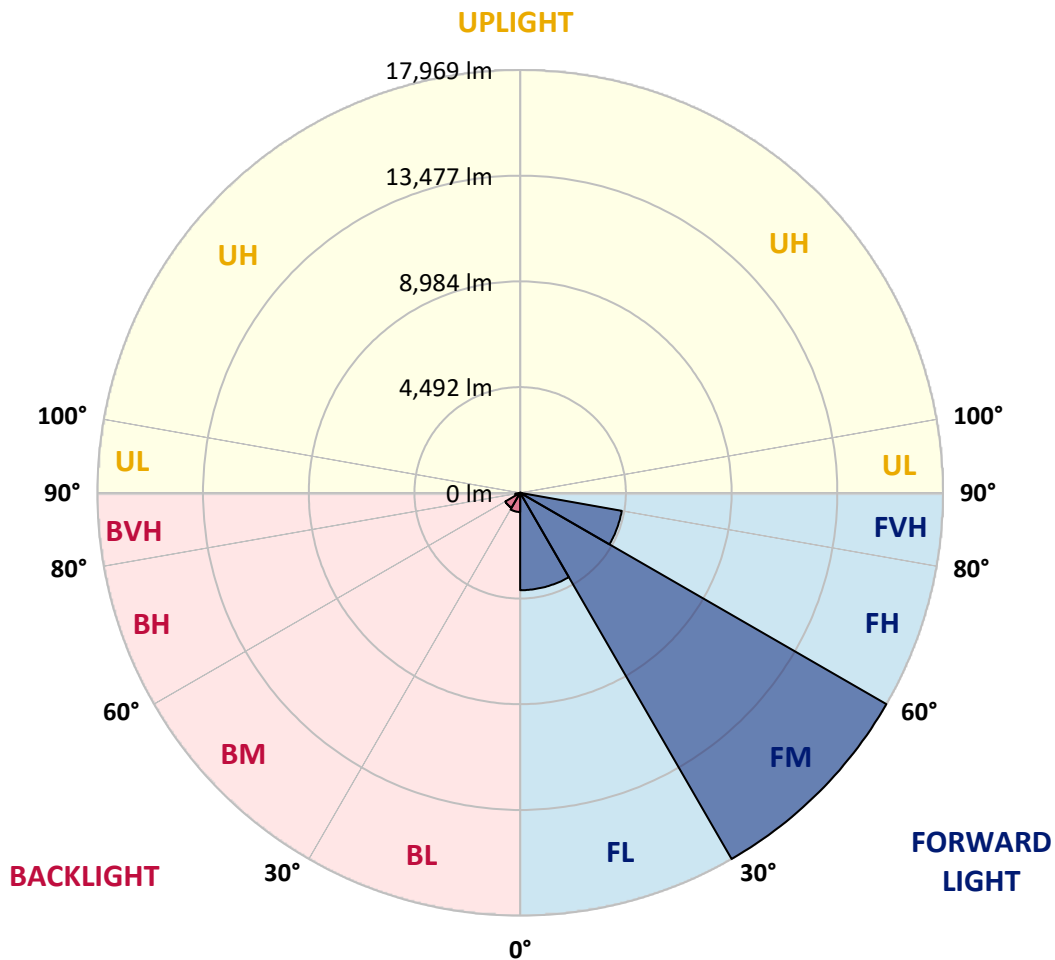
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	4138.5	14.6			
FM (30°-60°)	17968.9	63.4			
FH (60°-80°)	4382.4	15.5			G2/5000
FVH (80°-90°)	64.6	0.2			G1/100
BL (0°-30°)	815.5	2.9	B2/1000		
BM (30°-60°)	732.3	2.6	B1/1000		
BH (60°-80°)	209.7	0.7	B1/500		G1/500
BVH (80°-90°)	10.4	0.0			G1/100
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°	58°	65°	75°	85°
0°	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9
2.5°	9648.3	9589.9	9529.4	9417.0	9313.3	9153.4	8933.0	8879.0	8706.1	8420.8	8155.1
5°	10480.1	10469.4	10428.3	10337.5	10225.2	10030.6	9782.2	9615.8	9347.8	8898.4	8386.3
7.5°	9987.5	10078.2	10227.4	10439.1	10581.7	10562.3	10372.1	10227.4	9961.6	9347.8	8613.1
10°	8418.7	8436.0	8641.3	9086.4	9790.9	10447.7	10696.3	10657.3	10413.1	9741.2	8812.0
12.5°	7865.5	7876.3	7923.9	8066.5	8524.6	9440.8	10566.6	10769.7	10750.3	10117.1	9023.8
15°	7908.7	7915.2	7928.2	7973.6	8103.2	8563.4	9909.7	10426.1	10966.3	10473.7	9231.2
17.5°	8250.2	8245.8	8204.8	8161.5	8202.6	8353.8	9239.8	9784.3	10920.9	10774.0	9401.8
20°	8915.7	8937.3	8799.0	8606.7	8507.3	8513.8	8909.2	9317.6	10666.0	11007.4	9529.4
22.5°	9851.3	9866.5	9639.6	9306.8	9015.1	8868.2	8978.3	9194.5	10372.1	11223.5	9633.1
25°	10968.5	10968.5	10650.9	10177.6	9726.0	9404.1	9309.0	9391.1	10259.8	11467.7	9736.9
27.5°	12174.2	12217.5	11802.6	11182.4	10586.0	10114.9	9816.7	9801.6	10346.2	11774.5	9853.5
30°	13485.9	13524.8	13032.1	12273.7	11567.0	10964.2	10506.1	10406.7	10676.7	12187.2	10024.2
32.5°	14791.1	14823.5	14279.0	13505.3	12682.0	11973.3	11370.4	11212.7	11271.1	12790.2	10274.8
35°	16450.6	16457.1	15767.8	14847.2	13967.8	13135.8	12373.1	12217.5	12152.7	13550.7	10635.7
37.5°	17770.9	17719.0	17282.5	16411.7	15402.6	14533.9	13637.2	13434.0	13278.5	14620.3	11195.4
40°	18082.1	18082.1	18017.2	17755.8	16954.1	16117.8	15249.1	14946.6	14603.0	15880.2	11947.3
42.5°	17271.7	17323.6	17751.5	18319.7	18326.3	17790.3	16941.1	16686.2	16081.1	17315.0	12768.5
45°	15458.7	15473.9	16500.3	18034.5	19076.1	19382.9	18756.2	18404.0	17565.6	18805.9	13520.4
47.5°	14806.2	14853.8	15290.3	17165.8	19132.2	20672.9	20497.9	20013.8	18939.9	20167.3	14222.8
50°	13803.6	13861.9	14395.6	15886.6	18626.6	21500.5	22163.9	21645.3	20191.0	21301.7	14570.7
52.5°	11405.0	11495.7	12249.9	14194.7	17362.4	21535.1	23689.5	23378.3	21472.5	21908.9	14529.6
55°	7848.2	7915.2	8794.7	11080.9	14812.6	20478.5	24346.3	24560.3	22615.5	22045.1	14330.8
56°	6331.3	6582.0	7225.9	9440.8	13360.6	19579.5	24195.1	24689.9	22954.8	22023.4	14244.4
57.5°	4185.6	4233.1	4935.4	6841.3	10728.6	17628.3	23512.3	24413.3	23391.3	21913.2	14181.7
60°	1968.6	1990.2	2242.9	3157.0	5806.3	12846.3	21293.1	22788.4	23551.2	21682.1	14179.5
62.5°	1283.6	1287.9	1318.1	1506.1	2374.8	6996.9	17652.0	19804.2	22226.6	21656.1	14138.5
65°	1056.7	1067.4	1030.7	1054.5	1242.5	2638.4	12450.8	15439.3	19117.1	21046.7	13676.0
67.5°	931.3	933.4	883.8	855.7	909.7	1158.2	6272.9	9739.0	14298.4	17883.2	11264.5
70°	849.3	847.1	790.8	726.1	728.2	769.3	2044.2	4045.2	7910.9	10618.4	6467.4
72.5°	754.1	758.4	726.1	635.3	605.1	544.5	769.3	1091.2	2692.4	3409.8	1705.0
75°	661.2	652.5	620.2	561.8	505.6	365.2	386.8	464.6	702.3	695.8	367.3
77.5°	501.3	492.7	507.8	479.7	395.5	255.0	211.8	242.0	317.6	296.0	149.1
80°	382.5	378.2	345.8	410.6	360.9	192.3	144.7	149.1	172.9	157.7	73.4
82.5°	276.6	274.5	261.5	252.8	229.0	140.5	110.2	116.7	129.6	110.2	54.0
85°	105.9	105.9	205.3	172.9	157.7	95.0	77.7	84.3	99.4	80.0	36.7
87.5°	17.3	17.3	138.3	114.6	71.3	47.6	49.7	54.0	58.3	47.6	28.1
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°	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9	8018.9
2.5°	7997.3	7852.6	7535.0	7228.1	6960.2	6666.3	6517.1	6344.2	6279.5	6149.8	6162.8
5°	8079.5	7776.9	7139.5	6467.4	5851.6	5224.9	4779.8	4360.6	4127.2	3896.0	3896.0
7.5°	8163.8	7701.3	6716.0	5642.0	4604.8	3530.8	2770.3	2160.9	1821.6	1594.7	1588.2
10°	8222.1	7604.1	6234.1	4684.7	3154.9	1819.4	1097.7	864.4	780.1	743.4	741.1
12.5°	8297.7	7506.8	5685.3	3556.8	1752.4	864.4	685.0	648.2	633.1	624.5	624.5
15°	8362.5	7368.5	5019.6	2392.1	920.6	648.2	589.9	576.9	574.8	572.6	574.8
17.5°	8377.7	7171.9	4222.3	1400.2	667.7	566.1	540.2	529.4	529.4	527.2	527.2
20°	8343.1	6912.6	3340.7	864.4	576.9	520.8	492.7	479.7	477.5	477.5	477.5
22.5°	8271.8	6582.0	2469.8	654.7	525.1	479.7	442.9	430.0	430.0	432.2	434.3
25°	8183.2	6190.9	1696.3	564.0	486.2	436.5	399.8	386.8	391.1	395.5	397.6
27.5°	8070.8	5724.1	1110.7	488.4	434.3	393.3	360.9	352.2	360.9	369.5	373.8
30°	7958.5	5212.0	752.0	423.5	376.0	345.8	326.3	324.2	337.1	356.5	358.7
32.5°	7885.0	4686.9	568.4	380.3	330.6	304.6	296.0	300.3	319.8	341.5	345.8
35°	7878.5	4174.8	484.1	345.8	300.3	276.6	272.3	285.2	306.9	324.2	328.5
37.5°	7980.0	3695.1	438.6	319.8	276.6	252.8	246.3	270.1	289.6	306.9	311.2
40°	8185.3	3265.1	408.4	296.0	257.2	229.0	224.7	244.2	263.6	283.1	289.6
42.5°	8442.5	2863.1	373.8	272.3	235.5	203.2	198.8	213.9	233.3	261.5	265.8
45°	8665.0	2489.4	337.1	246.3	211.8	175.0	172.9	190.2	205.3	231.2	235.5
47.5°	8853.0	2178.2	302.5	218.2	181.5	155.6	153.4	162.0	170.7	194.5	198.8
50°	8753.6	1914.6	267.9	179.3	146.9	134.0	131.9	131.9	142.6	166.4	170.7
52.5°	8509.4	1750.3	235.5	149.1	121.0	114.6	108.0	110.2	121.0	131.9	134.0
55°	8312.8	1672.5	207.5	131.9	101.6	95.0	88.6	86.4	88.6	84.3	80.0
56°	8265.2	1663.8	201.0	127.5	97.3	88.6	80.0	75.6	73.4	64.9	62.7
57.5°	8243.7	1663.8	190.2	118.9	90.7	80.0	69.2	60.5	51.9	45.4	45.4
60°	8226.4	1674.7	177.2	103.7	77.7	64.9	49.7	36.7	30.3	30.3	30.3
62.5°	8189.6	1670.4	162.0	86.4	67.0	49.7	30.3	23.7	21.6	23.7	25.9
65°	7776.9	1551.5	142.6	69.2	51.9	34.6	17.3	17.3	19.4	23.7	25.9
67.5°	6266.5	1175.5	116.7	54.0	36.7	25.9	15.1	15.1	19.4	23.7	25.9
70°	3442.2	620.2	99.4	38.9	28.1	21.6	15.1	13.0	19.4	23.7	25.9
72.5°	840.6	259.3	90.7	30.3	25.9	19.4	13.0	13.0	19.4	23.7	25.9
75°	207.5	194.5	73.4	23.7	21.6	17.3	13.0	13.0	19.4	23.7	25.9
77.5°	97.3	257.2	49.7	21.6	19.4	15.1	13.0	13.0	19.4	23.7	23.7
80°	58.3	194.5	30.3	19.4	17.3	15.1	13.0	13.0	19.4	23.7	25.9
82.5°	34.6	56.2	21.6	19.4	17.3	13.0	13.0	13.0	19.4	23.7	25.9
85°	30.3	28.1	21.6	19.4	17.3	15.1	13.0	13.0	21.6	25.9	25.9
87.5°	23.7	21.6	19.4	17.3	17.3	15.1	13.0	13.0	19.4	23.7	25.9
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)