

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: P195057

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195057
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-03-D-UNV-AFL-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14995 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

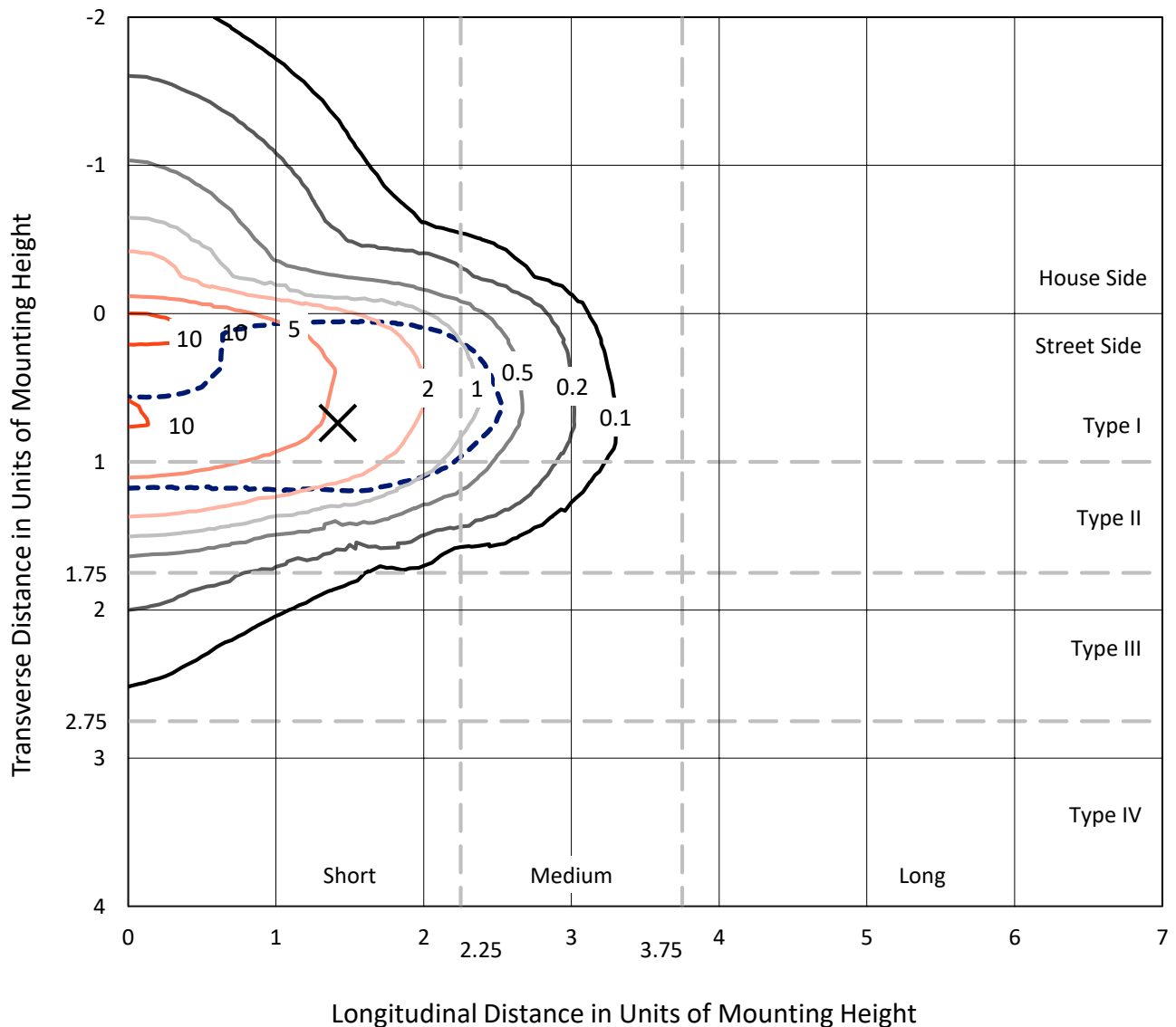
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

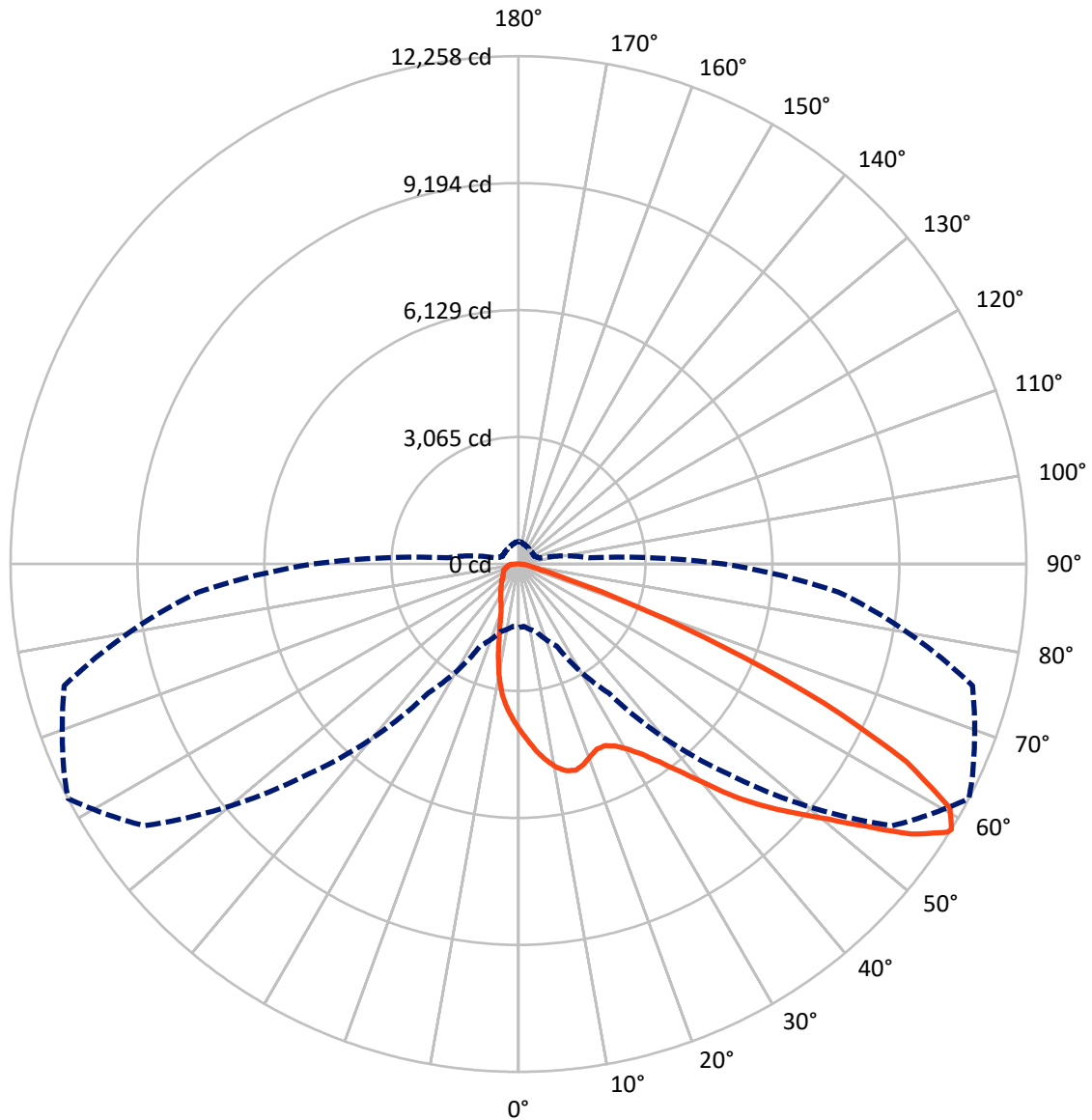
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.7 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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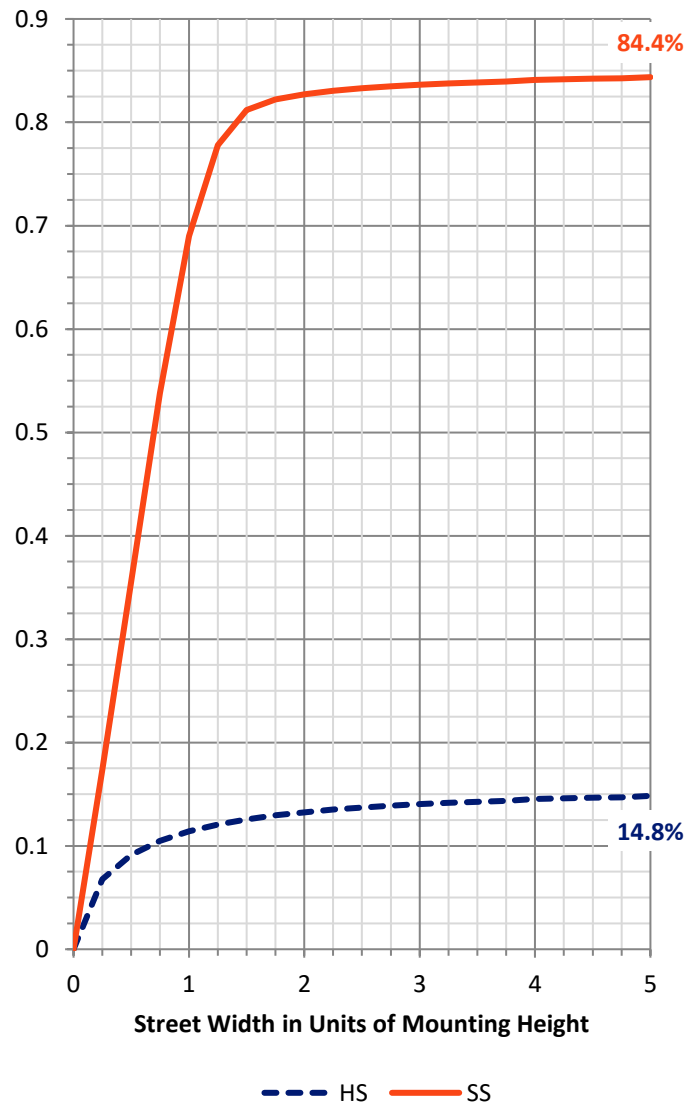
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2302.3	0.0	2302.3
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	12692.7	0.0	12692.7
	% Fixture	84.6	0.0	84.6
Total	Lumens	14995.0	0.0	14995.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.9	2.4
10°-20°	903.1	6.0
20°-30°	1463.6	9.8
30°-40°	2336.8	15.6
40°-50°	3399.0	22.7
50°-60°	3556.7	23.7
60°-70°	2168.3	14.5
70°-80°	606.4	4.0
80°-90°	203.3	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°	14995.0	100.0
0°-180°	14995.0	100.0

Coefficient of Utilization



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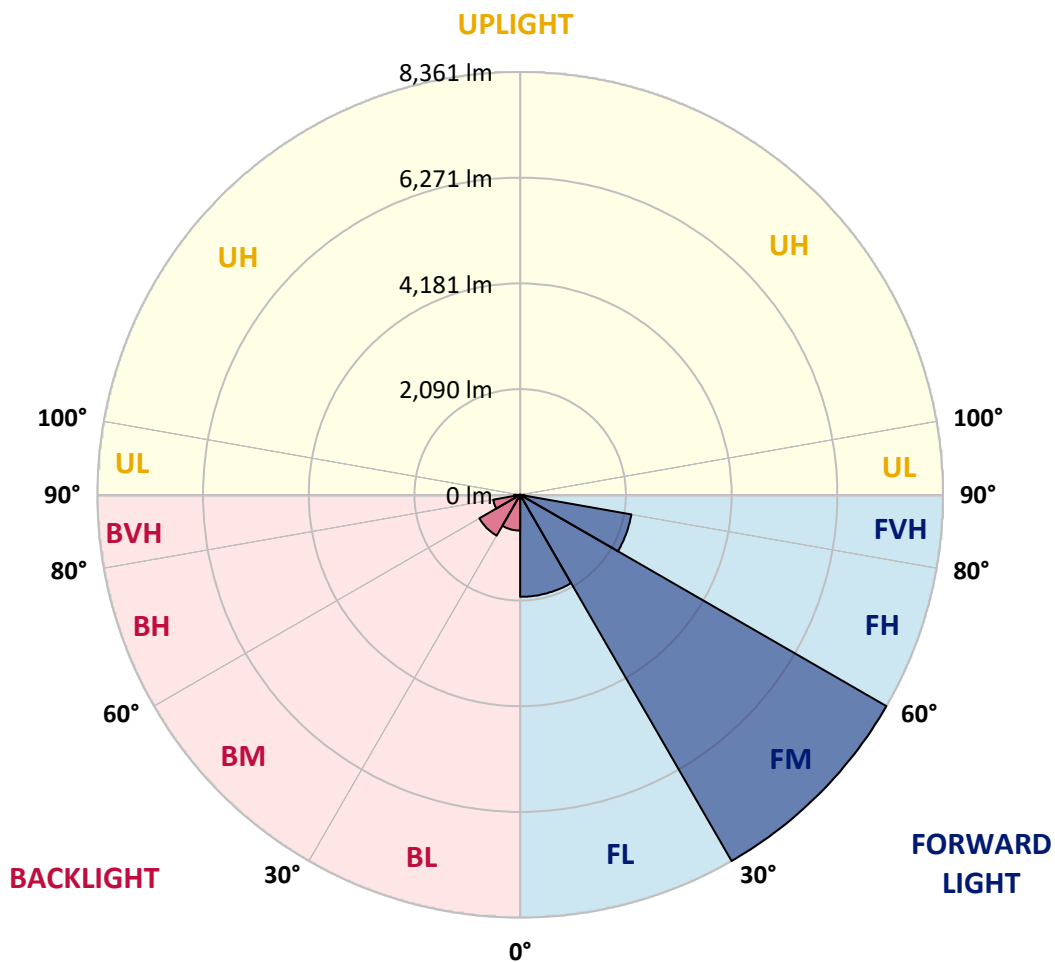
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2016.9	13.5			
FM	(30°-60°)	8361.4	55.8			
FH	(60°-80°)	2232.7	14.9			G2/5000
FVH	(80°-90°)	81.8	0.5			G1/100
BL	(0°-30°)	707.7	4.7	B2/1000		
BM	(30°-60°)	931.1	6.2	B1/1000		
BH	(60°-80°)	542.0	3.6	B2/1000		G2/1000
BVH	(80°-90°)	121.5	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°	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6
2.5°	4544.3	4541.5	4503.1	4477.8	4447.8	4378.4	4309.1	4257.5	4231.3	4131.0	4033.6
5°	4920.1	4908.9	4887.3	4860.1	4820.8	4733.6	4624.0	4529.3	4491.8	4313.8	4134.8
7.5°	4721.4	4739.2	4805.8	4880.8	4959.5	4965.1	4887.3	4774.9	4733.6	4495.6	4233.2
10°	4171.3	4163.8	4247.2	4393.4	4653.0	4909.8	5038.2	4982.9	4939.8	4668.0	4331.6
12.5°	4004.5	4002.6	4016.7	4054.2	4217.2	4569.6	4999.8	5119.7	5104.7	4850.8	4436.5
15°	4055.1	4057.0	4056.0	4060.7	4105.7	4273.5	4785.2	5165.7	5212.5	5031.6	4543.4
17.5°	4217.2	4210.7	4190.1	4167.6	4174.1	4234.1	4553.7	5086.9	5227.5	5192.8	4633.3
20°	4467.5	4467.5	4412.2	4349.4	4308.1	4321.3	4457.2	4952.0	5158.2	5329.7	4700.8
22.5°	4781.4	4786.1	4704.6	4590.2	4496.5	4460.9	4512.4	4851.7	5073.8	5456.2	4760.8
25°	5171.3	5170.3	5051.3	4887.3	4739.2	4654.0	4653.0	4856.4	5047.6	5604.2	4823.6
27.5°	5653.9	5609.9	5471.2	5237.8	5028.8	4898.6	4839.5	4974.5	5102.9	5786.1	4907.9
30°	6198.4	6153.4	5971.6	5671.7	5388.7	5198.5	5101.0	5178.8	5271.6	6017.5	5035.4
32.5°	6737.3	6747.6	6533.9	6195.6	5832.0	5563.9	5419.6	5467.4	5532.1	6300.6	5207.8
35°	7526.4	7525.4	7246.2	6823.5	6391.5	6020.3	5837.6	5862.9	5921.9	6699.8	5449.6
37.5°	8114.9	8105.5	7925.6	7551.7	7065.3	6620.1	6355.8	6359.6	6410.2	7201.2	5768.2
40°	8174.9	8173.0	8172.1	8118.7	7786.0	7366.1	7035.3	6966.9	6987.5	7733.5	6106.6
42.5°	7716.6	7785.0	7981.8	8283.6	8376.4	8156.1	7843.1	7690.4	7645.4	8344.5	6464.6
45°	7063.4	7098.1	7443.0	8121.5	8673.5	8898.4	8663.1	8340.8	8263.9	8938.7	6756.0
47.5°	6759.8	6744.8	6944.4	7683.8	8644.4	9488.8	9505.7	8977.1	8846.8	9451.3	7004.4
50°	6108.4	6088.8	6340.9	7040.0	8327.6	9782.1	10370.7	9670.6	9429.7	9938.6	7229.3
52.5°	4810.5	4791.7	5130.0	6030.7	7619.1	9672.5	11099.8	10521.5	10111.1	10408.1	7439.2
55°	3130.1	3132.0	3454.4	4383.1	6165.6	9033.3	11441.8	11504.6	11044.5	10877.7	7608.8
57.5°	1723.4	1707.5	1937.1	2507.9	4241.6	7581.7	11156.9	12213.1	11973.2	11280.6	7731.6
58°	1532.3	1513.5	1690.6	2182.7	3803.0	7172.1	11013.6	12258.1	12092.2	11347.2	7749.4
60°	1091.8	1059.9	1032.8	1230.5	2191.1	5171.3	10057.6	11966.7	12126.9	11480.3	7732.5
62.5°	920.3	883.7	786.3	778.8	1031.8	2529.4	7953.7	10509.4	10958.3	11173.8	7460.8
65°	854.7	818.1	689.8	643.8	700.1	1091.8	4918.2	8114.9	8714.7	10108.3	6776.6
67.5°	807.8	764.7	627.0	567.0	578.2	653.2	2087.1	5307.2	6002.5	7882.5	5436.5
70°	765.7	717.9	577.3	507.9	498.6	496.7	815.3	2771.2	3441.3	5158.2	3641.8
72.5°	717.9	671.0	533.2	459.2	438.6	403.0	490.1	1145.2	1569.8	2528.5	1669.1
75°	648.5	610.1	484.5	418.9	383.3	327.1	361.7	549.2	676.6	968.1	775.0
77.5°	570.7	539.8	434.8	385.2	337.4	267.1	276.5	372.1	418.0	545.4	448.9
80°	403.9	415.2	379.6	339.3	297.1	215.5	212.7	272.7	299.9	366.4	301.8
82.5°	278.3	286.8	309.3	268.0	239.9	167.8	156.5	189.3	203.4	221.2	146.2
85°	198.7	193.1	214.6	192.1	176.2	106.8	100.3	120.0	128.4	135.0	70.3
87.5°	120.9	120.0	123.7	99.3	91.8	54.4	49.7	57.2	60.9	59.0	33.7
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°	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6	4003.6
2.5°	3997.0	3951.1	3850.8	3770.2	3683.1	3616.5	3550.0	3512.5	3471.3	3447.8	3445.0
5°	4041.1	3947.3	3733.7	3535.0	3330.7	3147.0	2967.1	2834.0	2725.3	2663.4	2659.7
7.5°	4089.8	3942.7	3612.8	3268.8	2905.2	2543.5	2223.9	1998.0	1852.8	1785.3	1780.6
10°	4127.3	3923.0	3465.6	2930.5	2354.2	1876.2	1585.7	1452.6	1408.6	1397.3	1395.4
12.5°	4172.3	3908.9	3280.1	2496.6	1799.4	1428.2	1340.1	1331.7	1341.1	1346.7	1347.6
15°	4214.4	3881.7	3029.9	2015.8	1408.6	1276.4	1278.3	1296.1	1314.8	1323.3	1324.2
17.5°	4234.1	3815.2	2700.9	1588.5	1232.4	1208.0	1229.6	1253.0	1269.9	1276.4	1276.4
20°	4234.1	3708.4	2319.5	1286.7	1140.5	1145.2	1171.5	1189.3	1193.0	1187.4	1184.6
22.5°	4216.3	3576.2	1948.4	1122.7	1065.6	1083.4	1104.0	1091.8	1047.7	1014.0	1007.5
25°	4200.4	3419.7	1591.3	1022.4	1000.0	1023.4	1014.9	931.5	864.1	829.4	823.8
27.5°	4174.1	3230.4	1293.3	940.0	936.2	955.0	871.6	791.0	757.2	738.5	734.7
30°	4167.6	3025.2	1082.4	866.9	873.4	847.2	751.6	725.4	717.9	707.6	702.9
32.5°	4189.1	2819.9	950.3	806.9	813.5	727.2	690.7	694.4	693.5	680.4	675.7
35°	4248.2	2620.3	865.9	752.5	733.8	651.3	656.0	667.3	667.3	651.3	645.7
37.5°	4351.3	2434.8	812.5	706.6	642.0	612.0	624.2	639.1	639.1	627.9	623.2
40°	4460.9	2253.9	772.2	670.1	583.9	584.8	597.0	608.2	612.9	614.8	611.0
42.5°	4560.2	2066.4	729.1	630.7	557.6	564.2	569.8	578.2	597.9	611.0	609.2
45°	4618.3	1878.1	682.3	582.0	539.8	542.6	540.7	555.7	579.2	598.8	598.8
47.5°	4671.8	1723.4	643.8	533.2	522.0	522.0	516.4	531.4	552.9	576.4	578.2
50°	4722.4	1623.2	616.7	495.8	499.5	496.7	494.8	508.9	537.9	566.0	570.7
52.5°	4773.9	1589.4	592.3	468.6	476.1	472.3	474.2	493.9	526.7	555.7	560.4
55°	4846.1	1611.0	567.0	449.8	453.6	452.7	460.1	482.6	511.7	540.7	542.6
57.5°	4935.1	1689.7	545.4	435.8	432.0	437.7	449.8	471.4	499.5	534.2	537.0
58°	4952.9	1708.5	541.7	432.0	427.3	435.8	448.0	468.6	497.6	534.2	537.0
60°	4980.1	1775.0	532.3	424.5	411.4	426.4	441.4	462.0	493.9	538.9	544.5
62.5°	4848.9	1788.1	529.5	416.1	394.5	413.3	431.1	454.5	490.1	554.8	567.0
65°	4394.4	1653.2	509.8	402.0	380.5	403.0	421.7	448.9	501.4	602.6	608.2
67.5°	3527.5	1372.9	462.0	380.5	364.6	390.8	414.2	448.9	506.1	610.1	613.8
70°	2425.4	1031.8	402.0	357.1	345.8	375.8	411.4	459.2	490.1	577.3	566.0
72.5°	1267.0	717.9	352.4	329.9	323.3	362.7	438.6	448.9	471.4	538.9	527.6
75°	638.2	488.3	310.2	299.0	298.0	358.0	491.1	432.0	451.7	507.0	531.4
77.5°	376.7	382.4	276.5	269.9	274.6	349.6	492.0	415.2	429.2	466.7	492.9
80°	257.7	315.8	250.2	248.3	252.1	321.4	453.6	394.5	403.0	441.4	469.5
82.5°	145.3	174.3	219.3	231.5	229.6	263.3	391.7	358.9	369.2	522.0	552.0
85°	70.3	105.0	183.7	216.5	195.9	175.2	318.6	318.6	321.4	373.9	378.6
87.5°	26.2	46.9	123.7	171.5	136.8	105.0	216.5	225.9	251.2	258.7	264.3
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)