

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: P196004

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196004
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-02-D-UNV-AFL-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 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: 11473.4 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 129
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

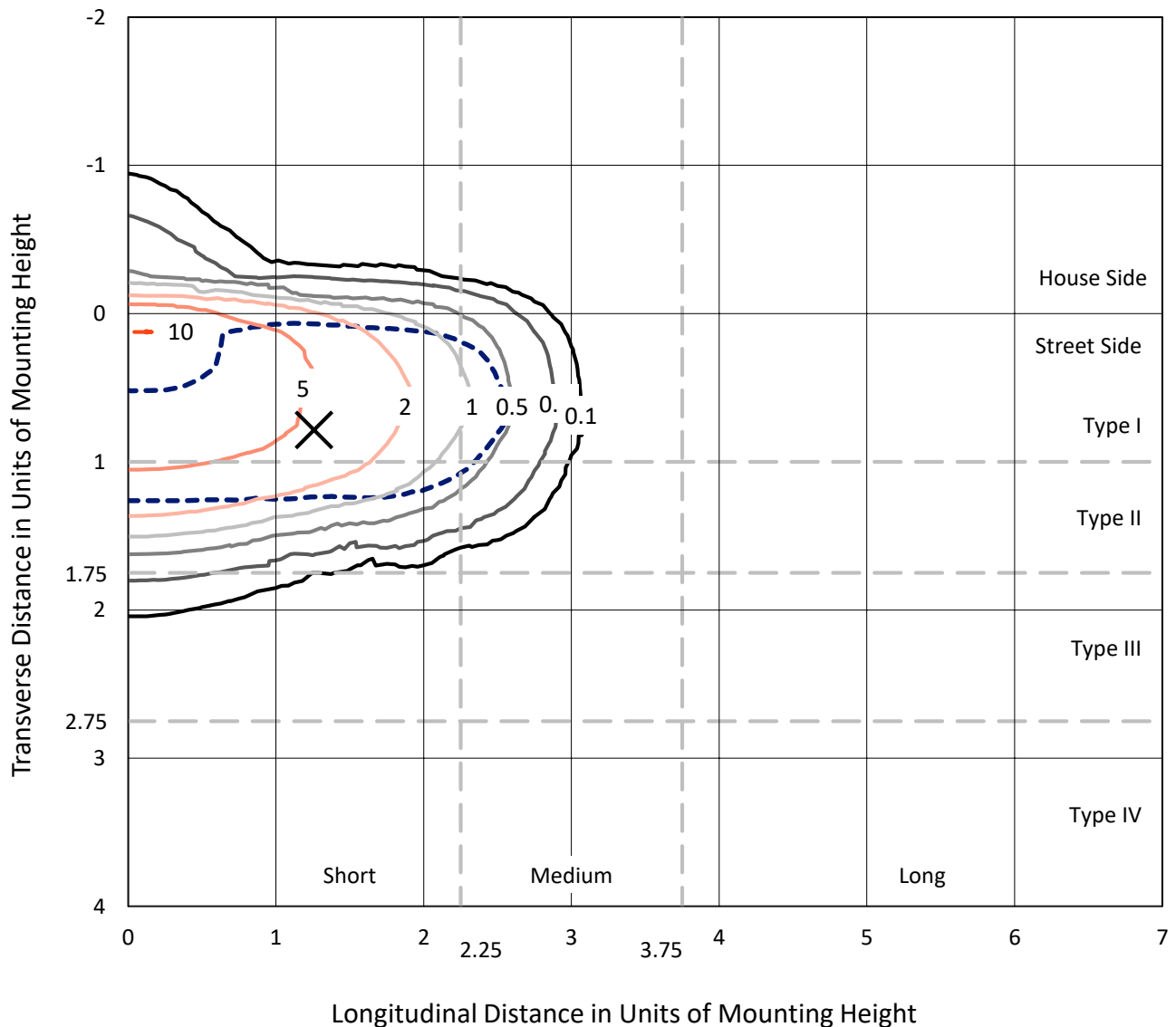


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Iso-Footcandle Lines of Horizontal Illumination

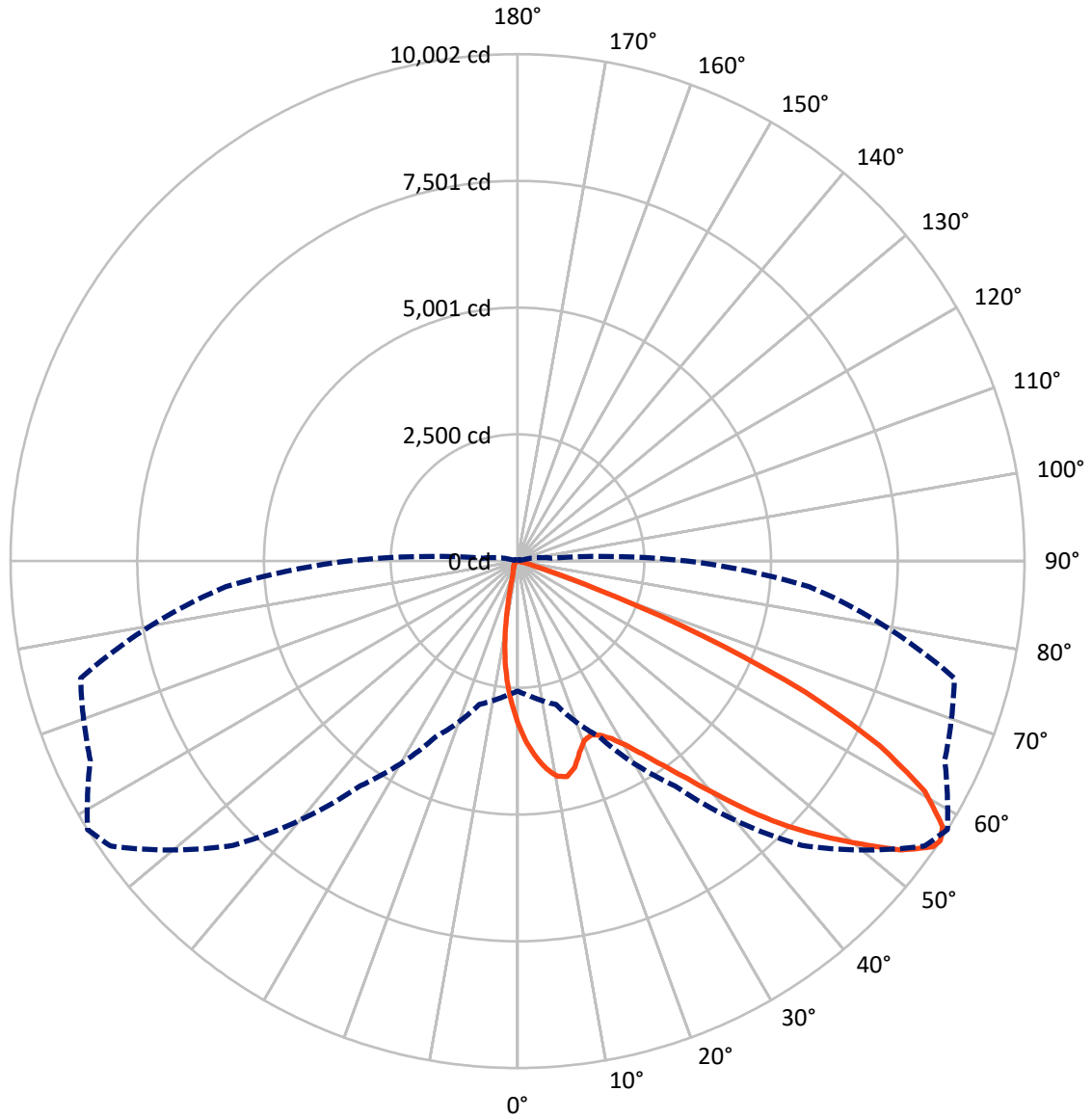
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.1 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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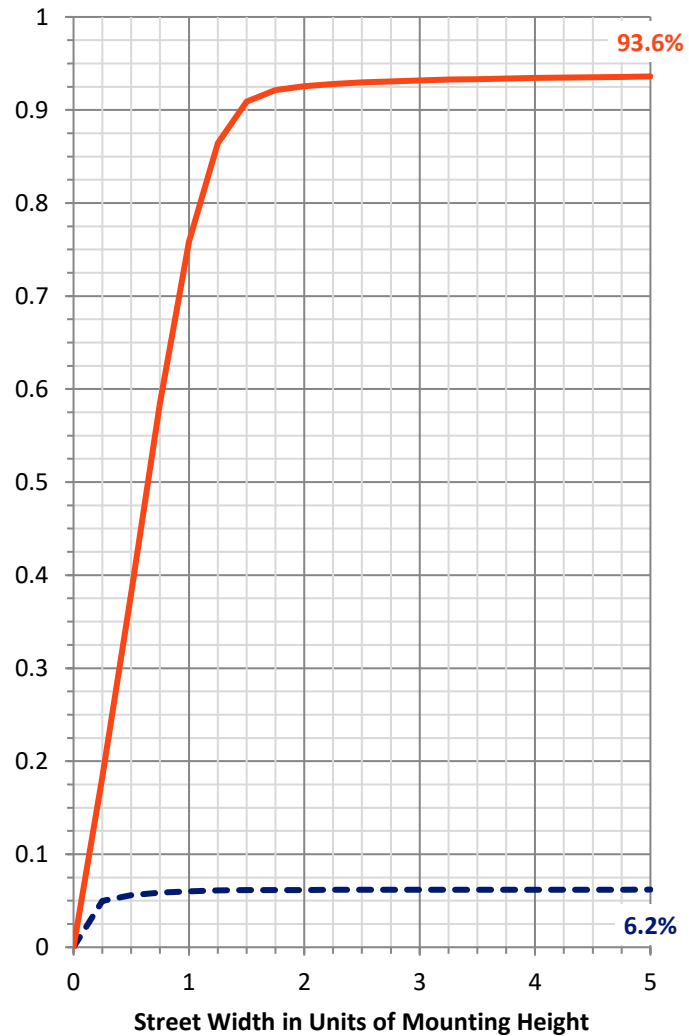
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	716.2	0.0	716.2
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	10757.2	0.0	10757.2
	% Fixture	93.8	0.0	93.8
Total	Lumens	11473.4	0.0	11473.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.1	2.4
10°-20°	644.8	5.6
20°-30°	1085.0	9.5
30°-40°	1857.9	16.2
40°-50°	2803.6	24.4
50°-60°	2914.3	25.4
60°-70°	1636.0	14.3
70°-80°	224.2	2.0
80°-90°	30.4	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°	11473.4	100.0
0°-180°	11473.4	100.0



--- HS — SS

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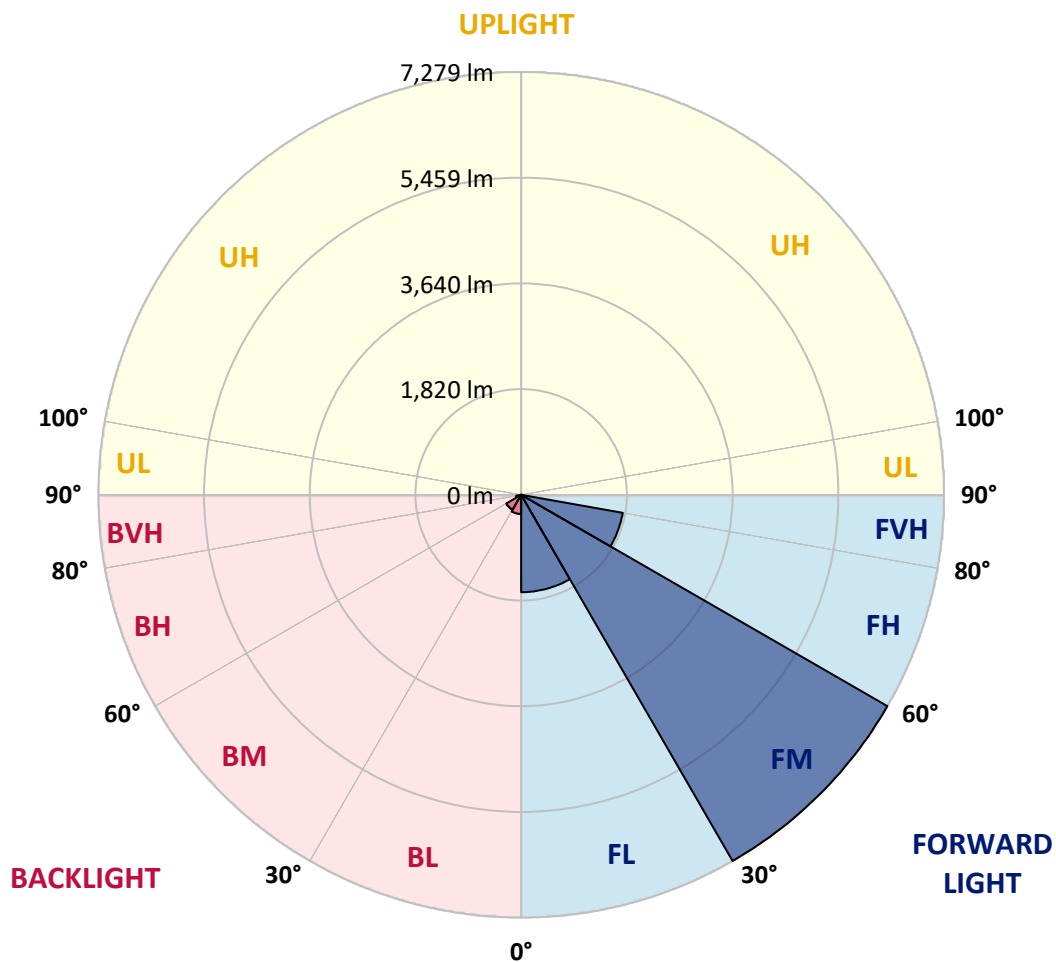
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1676.5	14.6			
FM	(30°-60°)	7279.2	63.4			
FH	(60°-80°)	1775.3	15.5			G1/1800
FVH	(80°-90°)	26.2	0.2			G1/100
BL	(0°-30°)	330.4	2.9	B1/500		
BM	(30°-60°)	296.7	2.6	B1/1000		
BH	(60°-80°)	85.0	0.7	B0/110		G0/110
BVH	(80°-90°)	4.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5
2.5°	3908.5	3884.9	3860.3	3814.8	3772.8	3708.0	3618.8	3596.9	3526.8	3411.3	3303.6
5°	4245.6	4241.2	4224.5	4187.8	4142.2	4063.5	3962.8	3895.4	3786.9	3604.8	3397.3
7.5°	4046.0	4082.7	4143.1	4228.9	4286.7	4278.8	4201.8	4143.1	4035.4	3786.9	3489.2
10°	3410.4	3417.4	3500.5	3680.9	3966.3	4232.4	4333.0	4317.3	4218.3	3946.1	3569.7
12.5°	3186.3	3190.7	3209.9	3267.7	3453.3	3824.5	4280.5	4362.8	4354.9	4098.5	3655.5
15°	3203.8	3206.4	3211.7	3230.1	3282.6	3469.0	4014.4	4223.7	4442.5	4242.9	3739.5
17.5°	3342.2	3340.3	3323.8	3306.3	3322.9	3384.1	3743.1	3963.6	4424.1	4364.5	3808.8
20°	3611.7	3620.5	3564.5	3486.5	3446.3	3448.9	3609.1	3774.6	4320.7	4459.1	3860.3
22.5°	3990.7	3996.9	3905.0	3770.2	3652.0	3592.5	3637.1	3724.7	4201.8	4546.6	3902.4
25°	4443.4	4443.4	4314.7	4123.0	3940.0	3809.6	3771.1	3804.4	4156.2	4645.5	3944.4
27.5°	4931.7	4949.3	4781.3	4530.0	4288.4	4097.5	3976.8	3970.7	4191.2	4769.8	3991.7
30°	5463.2	5478.9	5279.3	4972.1	4685.8	4441.6	4256.0	4215.8	4325.1	4937.1	4060.8
32.5°	5991.8	6005.0	5784.4	5471.0	5137.5	4850.4	4606.1	4542.2	4565.9	5181.2	4162.4
35°	6664.1	6666.8	6387.5	6014.6	5658.4	5321.3	5012.4	4949.3	4923.1	5489.4	4308.6
37.5°	7199.0	7177.9	7001.2	6648.4	6239.6	5887.7	5524.4	5442.1	5379.1	5922.7	4535.3
40°	7325.0	7325.0	7298.8	7192.9	6868.1	6529.3	6177.4	6054.8	5915.7	6433.0	4839.9
42.5°	6996.8	7017.7	7191.1	7421.3	7424.0	7206.9	6862.9	6759.6	6514.5	7014.3	5172.6
45°	6262.3	6268.4	6684.3	7305.8	7727.7	7852.0	7598.2	7455.5	7115.9	7618.3	5477.2
47.5°	5998.0	6017.2	6194.1	6953.9	7750.5	8374.6	8303.7	8107.6	7672.5	8169.8	5761.7
50°	5591.9	5615.5	5831.6	6435.7	7545.6	8709.8	8978.6	8768.5	8179.4	8629.3	5902.5
52.5°	4620.2	4656.9	4962.4	5750.2	7033.5	8723.8	9596.6	9470.6	8698.5	8875.3	5886.0
55°	3179.3	3206.4	3562.7	4488.8	6000.6	8295.8	9862.7	9949.4	9161.5	8930.5	5805.5
56°	2564.8	2666.3	2927.2	3824.5	5412.3	7931.7	9801.4	10001.9	9298.9	8921.7	5770.4
57.5°	1695.5	1714.9	1999.4	2771.4	4346.2	7141.2	9524.8	9889.9	9475.8	8877.1	5745.0
60°	797.5	806.2	908.6	1278.9	2352.1	5204.1	8625.8	9231.6	9540.6	8783.4	5744.2
62.5°	520.0	521.7	534.0	610.1	962.0	2834.4	7150.8	8022.7	9004.0	8772.9	5727.5
65°	428.0	432.4	417.6	427.2	503.3	1068.8	5043.9	6254.4	7744.4	8526.0	5540.2
67.5°	377.3	378.2	358.0	346.7	368.6	469.2	2541.2	3945.2	5792.3	7244.5	4563.3
70°	344.0	343.1	320.4	294.1	295.0	311.6	828.1	1638.7	3204.7	4301.5	2620.0
72.5°	305.5	307.3	294.1	257.4	245.1	220.5	311.6	442.0	1090.7	1381.3	690.7
75°	267.9	264.3	251.2	227.6	204.8	147.9	156.7	188.2	284.5	281.8	148.8
77.5°	203.1	199.6	205.7	194.4	160.2	103.3	85.8	98.0	128.7	119.9	60.4
80°	155.0	153.2	140.0	166.3	146.2	77.9	58.6	60.4	70.1	63.9	29.8
82.5°	112.0	111.2	105.9	102.4	92.8	56.9	44.6	47.3	52.5	44.6	21.9
85°	42.9	42.9	83.2	70.1	63.9	38.6	31.5	34.2	40.3	32.4	14.8
87.5°	7.0	7.0	56.1	46.4	28.8	19.2	20.2	21.9	23.6	19.2	11.4
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°	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5	3248.5
2.5°	3239.7	3181.1	3052.4	2928.1	2819.6	2700.5	2640.1	2570.1	2543.8	2491.3	2496.5
5°	3272.9	3150.4	2892.2	2620.0	2370.5	2116.6	1936.3	1766.4	1671.9	1578.3	1578.3
7.5°	3307.1	3119.8	2720.6	2285.6	1865.4	1430.4	1122.2	875.3	738.0	646.0	643.4
10°	3330.7	3080.4	2525.5	1897.8	1278.1	737.0	444.7	350.2	316.0	301.2	300.2
12.5°	3361.4	3041.0	2303.1	1440.8	709.9	350.2	277.5	262.6	256.5	253.0	253.0
15°	3387.6	2985.0	2033.4	969.0	372.9	262.6	239.0	233.7	232.8	232.0	232.8
17.5°	3393.7	2905.3	1710.5	567.2	270.5	229.3	218.8	214.5	214.5	213.6	213.6
20°	3379.7	2800.3	1353.3	350.2	233.7	210.9	199.6	194.4	193.4	193.4	193.4
22.5°	3350.9	2666.3	1000.5	265.3	212.7	194.4	179.4	174.2	174.2	175.0	175.9
25°	3315.0	2507.9	687.1	228.4	196.9	176.9	161.9	156.7	158.5	160.2	161.1
27.5°	3269.5	2318.8	449.9	197.8	175.9	159.3	146.2	142.7	146.2	149.7	151.4
30°	3223.9	2111.4	304.6	171.5	152.3	140.0	132.2	131.3	136.6	144.4	145.4
32.5°	3194.2	1898.7	230.3	154.1	133.9	123.5	119.9	121.6	129.5	138.3	140.0
35°	3191.6	1691.2	196.1	140.0	121.6	112.0	110.3	115.6	124.3	131.3	133.1
37.5°	3232.7	1496.9	177.7	129.5	112.0	102.4	99.8	109.5	117.3	124.3	126.0
40°	3315.9	1322.7	165.4	119.9	104.1	92.8	91.0	98.9	106.8	114.7	117.3
42.5°	3420.0	1159.8	151.4	110.3	95.4	82.2	80.5	86.6	94.5	105.9	107.7
45°	3510.3	1008.4	136.6	99.8	85.8	70.9	70.1	77.0	83.2	93.7	95.4
47.5°	3586.4	882.4	122.5	88.4	73.6	63.0	62.2	65.7	69.2	78.8	80.5
50°	3546.1	775.6	108.5	72.6	59.5	54.3	53.4	53.4	57.8	67.4	69.2
52.5°	3447.1	709.0	95.4	60.4	49.0	46.4	43.8	44.6	49.0	53.4	54.3
55°	3367.6	677.5	84.0	53.4	41.1	38.6	35.9	35.0	35.9	34.2	32.4
56°	3348.2	674.0	81.4	51.7	39.4	35.9	32.4	30.7	29.8	26.3	25.4
57.5°	3339.5	674.0	77.0	48.2	36.7	32.4	28.0	24.6	21.0	18.4	18.4
60°	3332.5	678.4	71.8	42.0	31.5	26.3	20.2	14.8	12.3	12.3	12.3
62.5°	3317.6	676.7	65.7	35.0	27.1	20.2	12.3	9.6	8.8	9.6	10.5
65°	3150.4	628.5	57.8	28.0	21.0	14.0	7.0	7.0	7.9	9.6	10.5
67.5°	2538.6	476.2	47.3	21.9	14.8	10.5	6.1	6.1	7.9	9.6	10.5
70°	1394.5	251.2	40.3	15.8	11.4	8.8	6.1	5.2	7.9	9.6	10.5
72.5°	340.5	105.1	36.7	12.3	10.5	7.9	5.2	5.2	7.9	9.6	10.5
75°	84.0	78.8	29.8	9.6	8.8	7.0	5.2	5.2	7.9	9.6	10.5
77.5°	39.4	104.1	20.2	8.8	7.9	6.1	5.2	5.2	7.9	9.6	9.6
80°	23.6	78.8	12.3	7.9	7.0	6.1	5.2	5.2	7.9	9.6	10.5
82.5°	14.0	22.7	8.8	7.9	7.0	5.2	5.2	5.2	7.9	9.6	10.5
85°	12.3	11.4	8.8	7.9	7.0	6.1	5.2	5.2	8.8	10.5	10.5
87.5°	9.6	8.8	7.9	7.0	7.0	6.1	5.2	5.2	7.9	9.6	10.5
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)