

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: P195647

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195647
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28001 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 320
Input Voltage (V): NR
Input Current (A_{in}): 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

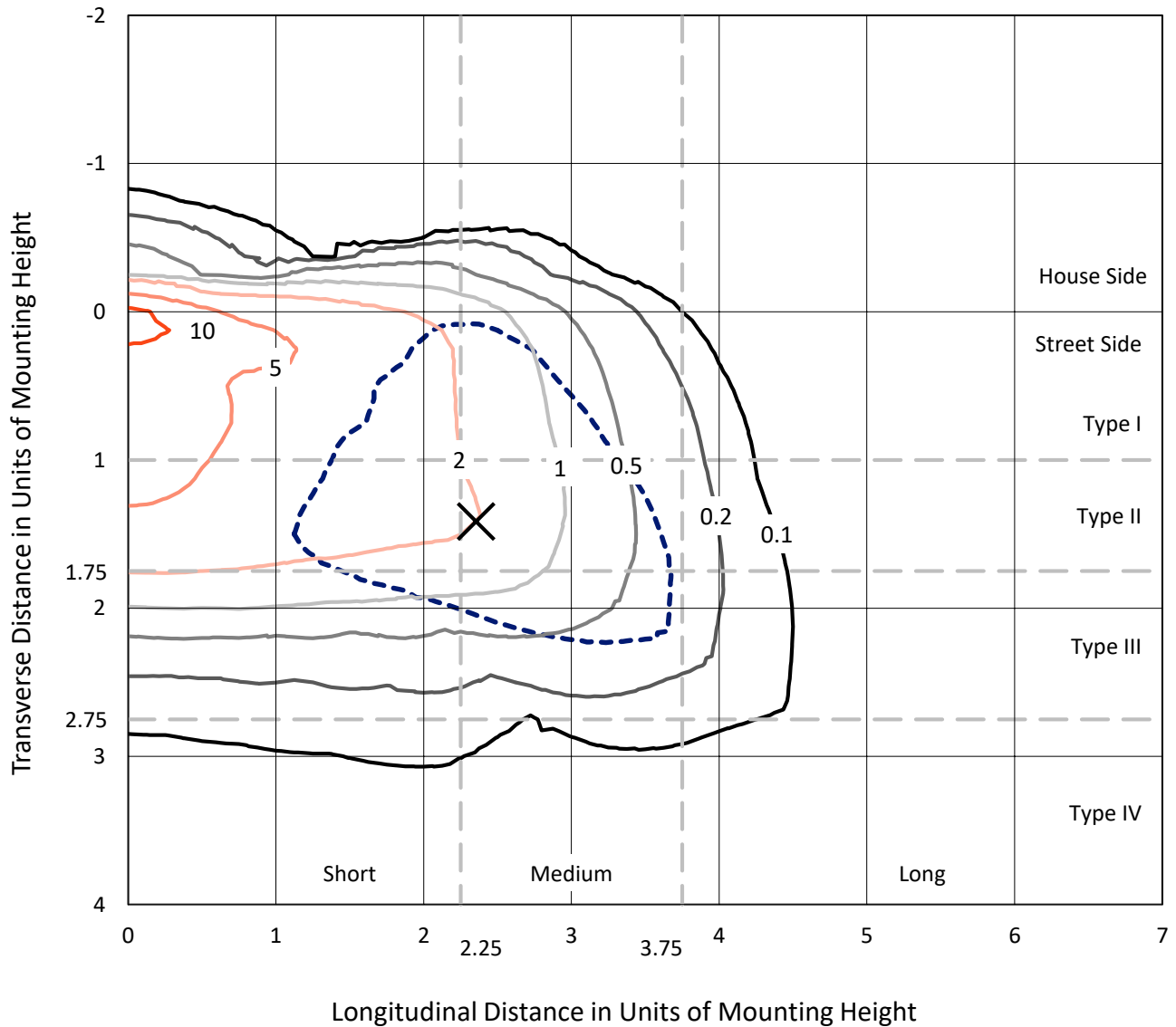


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

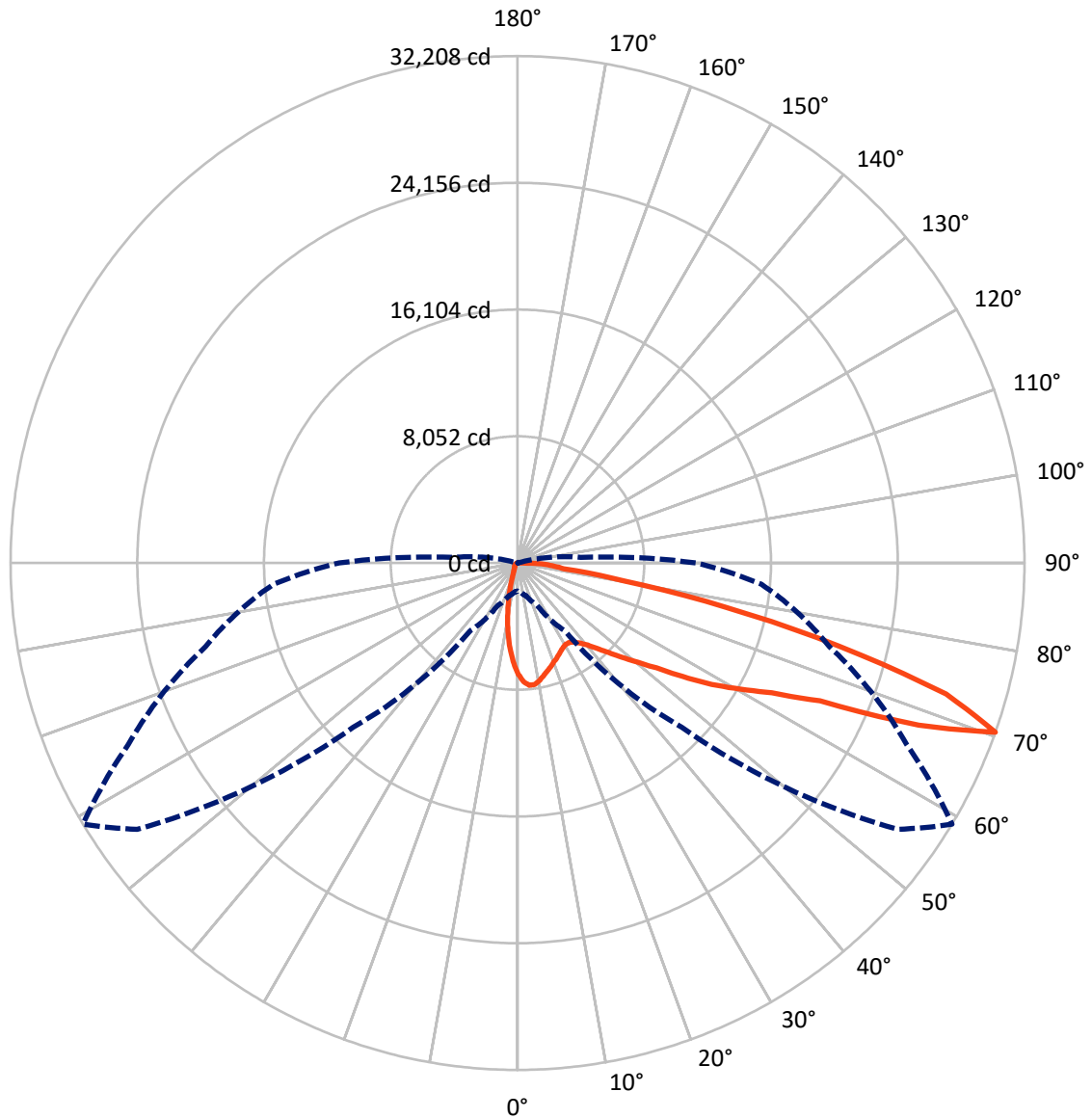


Based on 25 foot mounting height. Maximum calculated value = 12.1 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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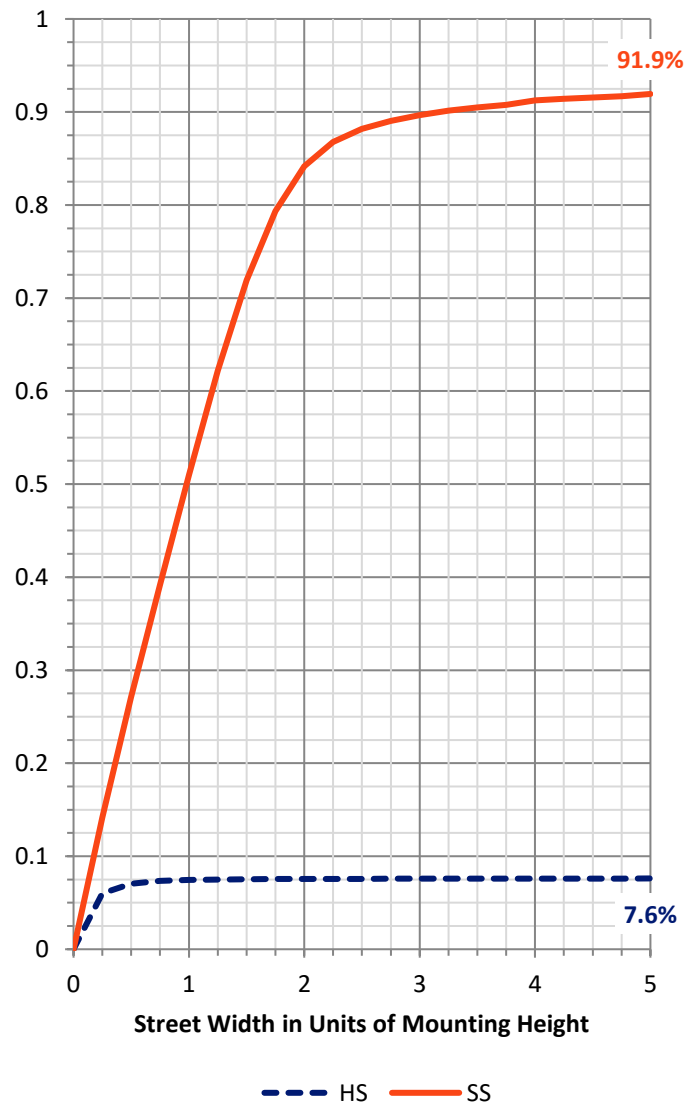
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2152.5	0.0	2152.5
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	25848.5	0.0	25848.5
	% Fixture	92.3	0.0	92.3
Total	Lumens	28001.0	0.0	28001.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	582.2	2.1
10°-20°	1221.2	4.4
20°-30°	1653.1	5.9
30°-40°	2385.7	8.5
40°-50°	3962.0	14.1
50°-60°	6060.3	21.6
60°-70°	7537.7	26.9
70°-80°	4166.8	14.9
80°-90°	432.1	1.5
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°	28001.0	100.0
0°-180°	28001.0	100.0



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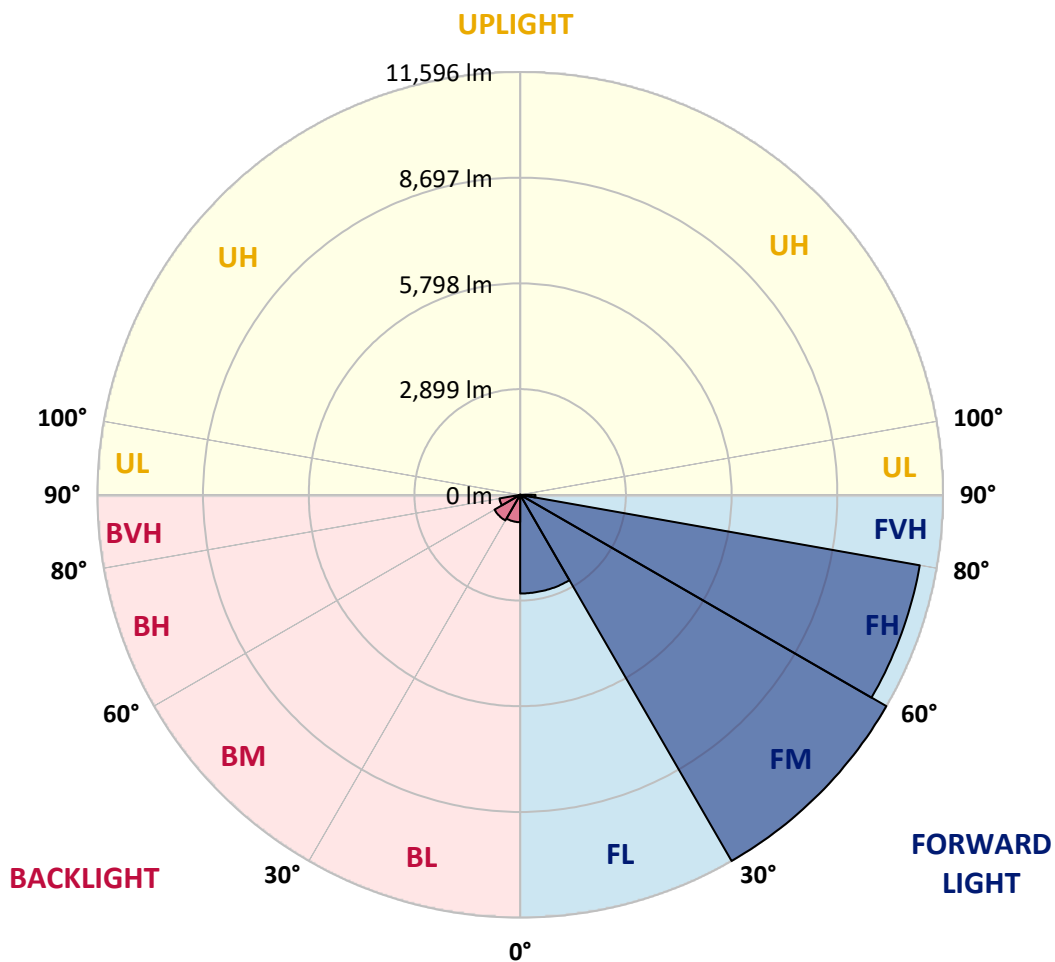
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2706.4	9.7			
FM	(30°-60°)	11595.5	41.4			
FH	(60°-80°)	11127.0	39.7			G4/12000
FVH	(80°-90°)	419.6	1.5			G3/500
BL	(0°-30°)	750.1	2.7	B2/1000		
BM	(30°-60°)	812.5	2.9	B1/1000		
BH	(60°-80°)	577.4	2.1	B2/1000		G2/1000
BVH	(80°-90°)	12.5	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-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4
2.5°	8003.5	7990.8	7938.0	7927.5	7868.3	7750.0	7612.7	7557.8	7445.9	7268.4	7072.0
5°	8136.6	8142.9	8147.2	8123.9	8115.5	8018.3	7866.2	7800.7	7650.8	7359.3	7000.2
7.5°	7638.1	7655.0	7707.8	7731.0	7832.4	7870.4	7838.8	7796.5	7678.2	7333.9	6829.1
10°	7112.1	7143.8	7200.8	7238.9	7363.5	7464.9	7593.7	7604.3	7578.9	7249.4	6636.9
12.5°	6660.1	6689.7	6753.0	6829.1	6955.8	7086.8	7279.0	7346.6	7431.1	7194.5	6499.6
15°	6271.4	6279.9	6341.1	6436.2	6603.1	6782.6	7010.7	7110.0	7274.8	7173.4	6393.9
17.5°	5931.4	5933.5	5973.6	6060.2	6263.0	6499.6	6765.7	6896.7	7105.8	7143.8	6301.0
20°	5707.4	5705.3	5707.4	5753.9	5933.5	6214.4	6537.6	6674.9	6943.1	7107.9	6206.0
22.5°	5631.4	5620.8	5572.3	5555.4	5669.4	5916.6	6303.1	6482.7	6797.4	7097.3	6136.2
25°	5724.3	5718.0	5614.5	5517.3	5527.9	5682.1	6064.4	6284.1	6683.3	7135.4	6119.3
27.5°	6024.3	6011.6	5853.2	5663.1	5542.7	5570.1	5887.0	6117.2	6592.5	7228.3	6142.6
30°	6417.2	6419.3	6250.3	6020.1	5737.0	5580.7	5791.9	6009.5	6531.2	7367.7	6193.3
32.5°	6854.4	6852.3	6731.9	6465.8	6104.6	5775.0	5834.2	6018.0	6539.7	7572.6	6290.4
35°	7306.5	7283.2	7243.1	7008.6	6586.2	6115.1	6026.4	6161.6	6628.4	7843.0	6455.2
37.5°	7828.2	7819.8	7859.9	7612.7	7181.8	6615.7	6364.4	6455.2	6852.3	8242.2	6721.4
40°	8658.3	8611.9	8630.9	8295.0	7853.5	7289.6	6837.5	6860.8	7209.3	8770.3	7141.7
42.5°	10240.5	10052.5	9699.7	9070.2	8592.9	8037.3	7456.4	7416.3	7714.1	9410.3	7695.1
45°	12131.0	11915.5	11026.2	9925.7	9332.2	8840.0	8221.1	8113.4	8335.2	10172.9	8409.1
47.5°	13708.9	13476.5	12297.8	10819.2	10084.1	9668.0	9068.1	8941.4	9078.7	11057.9	9266.7
50°	14247.5	14118.6	13083.6	11562.8	10842.5	10597.4	10130.6	9919.4	9953.2	12012.7	10267.9
52.5°	14000.4	13956.0	13263.2	12071.8	11543.7	11624.0	11294.5	11072.7	11034.7	13056.2	11374.8
55°	13478.6	13457.5	13119.5	12354.9	12162.7	12564.0	12927.3	12735.1	12376.0	14165.1	12289.4
57.5°	12733.0	12813.2	13056.2	12899.8	12923.1	13556.8	14443.9	14543.2	14006.7	15048.1	12967.4
60°	10741.1	10956.5	12069.7	13485.0	14568.6	15208.6	16068.3	16254.2	15388.1	15652.2	13751.1
62.5°	7940.2	8248.5	9834.9	12435.1	15474.7	18349.6	18229.2	18146.8	16706.2	16461.2	15176.9
65°	4664.0	5025.2	6366.5	9716.6	14108.1	20369.0	22263.7	21123.0	18715.0	18142.6	17447.6
67.5°	2323.5	2325.6	2931.9	5128.7	10426.3	18960.0	28152.8	27493.8	22986.1	20620.3	18343.3
70°	1787.0	1835.6	2169.3	2980.5	5272.3	14767.1	29502.6	32208.4	27278.3	20510.5	15563.5
72.5°	1514.5	1546.2	1930.6	2593.9	3941.6	8107.0	25539.9	28469.6	26029.9	17329.3	11471.9
75°	1089.9	1115.3	1708.9	2353.1	3628.9	4021.8	17519.5	21114.6	19530.4	12190.1	6313.7
77.5°	270.4	268.3	595.7	1909.5	3246.6	3350.1	10052.5	13539.9	11205.8	4991.4	1622.2
80°	120.4	116.2	135.2	401.3	3020.6	3162.1	4421.1	6837.5	4298.5	809.0	496.4
82.5°	84.5	80.3	84.5	147.9	1009.7	2934.0	2672.1	2963.6	1573.7	276.7	211.2
85°	27.5	25.3	46.5	124.6	283.0	1692.0	2606.6	2213.7	1170.2	118.3	141.5
87.5°	4.2	4.2	16.9	67.6	82.4	564.0	1529.3	1533.5	526.0	69.7	63.4
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°	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4	7080.4
2.5°	6972.7	6848.1	6672.8	6497.4	6339.0	6176.4	6045.4	5984.2	5956.7	5918.7	5836.3
5°	6812.2	6586.2	6201.7	5823.6	5470.9	5132.9	4843.5	4678.8	4501.3	4492.9	4406.3
7.5°	6554.5	6233.4	5627.2	5040.0	4501.3	3985.9	3542.3	3255.1	3058.6	2936.1	2851.6
10°	6267.2	5855.3	5052.6	4226.7	3493.8	2805.1	2234.8	1863.1	1637.0	1523.0	1457.5
12.5°	6039.1	5521.6	4486.5	3447.3	2528.4	1738.4	1208.2	937.9	817.5	771.0	749.9
15°	5842.6	5215.3	3956.3	2750.2	1687.7	999.1	699.2	610.5	591.4	591.4	589.3
17.5°	5644.1	4919.6	3440.9	2065.8	1062.5	654.8	551.3	538.6	540.7	547.1	547.1
20°	5456.1	4638.6	2944.6	1472.3	697.1	523.9	500.6	496.4	502.7	511.2	509.1
22.5°	5304.0	4391.5	2479.8	1011.8	536.5	475.3	460.5	454.1	458.4	464.7	462.6
25°	5196.3	4180.3	2053.2	705.5	466.8	433.0	416.1	407.7	403.5	407.7	405.6
27.5°	5130.8	4002.8	1651.8	530.2	418.2	390.8	369.7	352.8	342.2	342.2	338.0
30°	5088.5	3835.9	1294.8	439.4	378.1	348.5	319.0	295.7	278.8	274.6	272.5
32.5°	5086.4	3692.3	967.4	388.7	340.1	306.3	270.4	240.8	221.8	217.6	215.5
35°	5139.2	3576.1	711.8	350.6	306.3	266.2	226.0	194.3	177.4	177.4	175.3
37.5°	5276.5	3508.5	538.6	321.1	278.8	232.4	190.1	160.5	145.7	150.0	150.0
40°	5532.1	3495.9	439.4	297.8	255.6	202.8	154.2	131.0	124.6	131.0	131.0
42.5°	5922.9	3563.5	390.8	280.9	234.5	173.2	128.9	112.0	109.8	116.2	116.2
45°	6432.0	3696.5	363.3	266.2	211.2	143.6	107.7	97.2	95.1	103.5	103.5
47.5°	7048.8	3876.1	338.0	249.3	188.0	118.3	90.8	82.4	82.4	90.8	92.9
50°	7779.6	4119.0	312.6	232.4	169.0	99.3	76.0	69.7	71.8	80.3	82.4
52.5°	8620.3	4416.8	289.4	217.6	147.9	80.3	63.4	59.1	61.3	69.7	71.8
55°	9344.8	4676.6	261.9	202.8	120.4	65.5	52.8	50.7	52.8	63.4	63.4
57.5°	9976.4	4925.9	236.6	179.5	95.1	52.8	42.2	42.2	46.5	57.0	59.1
60°	10815.0	5318.8	215.5	152.1	71.8	40.1	33.8	35.9	42.2	50.7	52.8
62.5°	12300.0	5986.3	188.0	126.7	52.8	31.7	27.5	29.6	38.0	48.6	50.7
65°	14158.8	6617.9	156.3	105.6	40.1	23.2	21.1	27.5	38.0	48.6	50.7
67.5°	13968.7	5756.0	122.5	84.5	29.6	19.0	16.9	25.3	35.9	48.6	50.7
70°	11328.3	4034.5	90.8	57.0	23.2	16.9	16.9	25.3	35.9	46.5	48.6
72.5°	7857.8	2245.4	69.7	38.0	21.1	16.9	14.8	23.2	33.8	46.5	48.6
75°	3738.8	688.6	54.9	27.5	19.0	14.8	12.7	23.2	33.8	46.5	48.6
77.5°	718.2	175.3	44.4	23.2	16.9	14.8	12.7	21.1	33.8	44.4	46.5
80°	242.9	78.2	35.9	21.1	16.9	14.8	12.7	21.1	31.7	42.2	44.4
82.5°	133.1	44.4	31.7	19.0	16.9	12.7	10.6	19.0	29.6	42.2	44.4
85°	103.5	31.7	25.3	19.0	16.9	12.7	10.6	19.0	29.6	40.1	42.2
87.5°	52.8	23.2	21.1	19.0	16.9	12.7	10.6	16.9	27.5	38.0	42.2
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)