

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: P270598

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270598
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28621 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

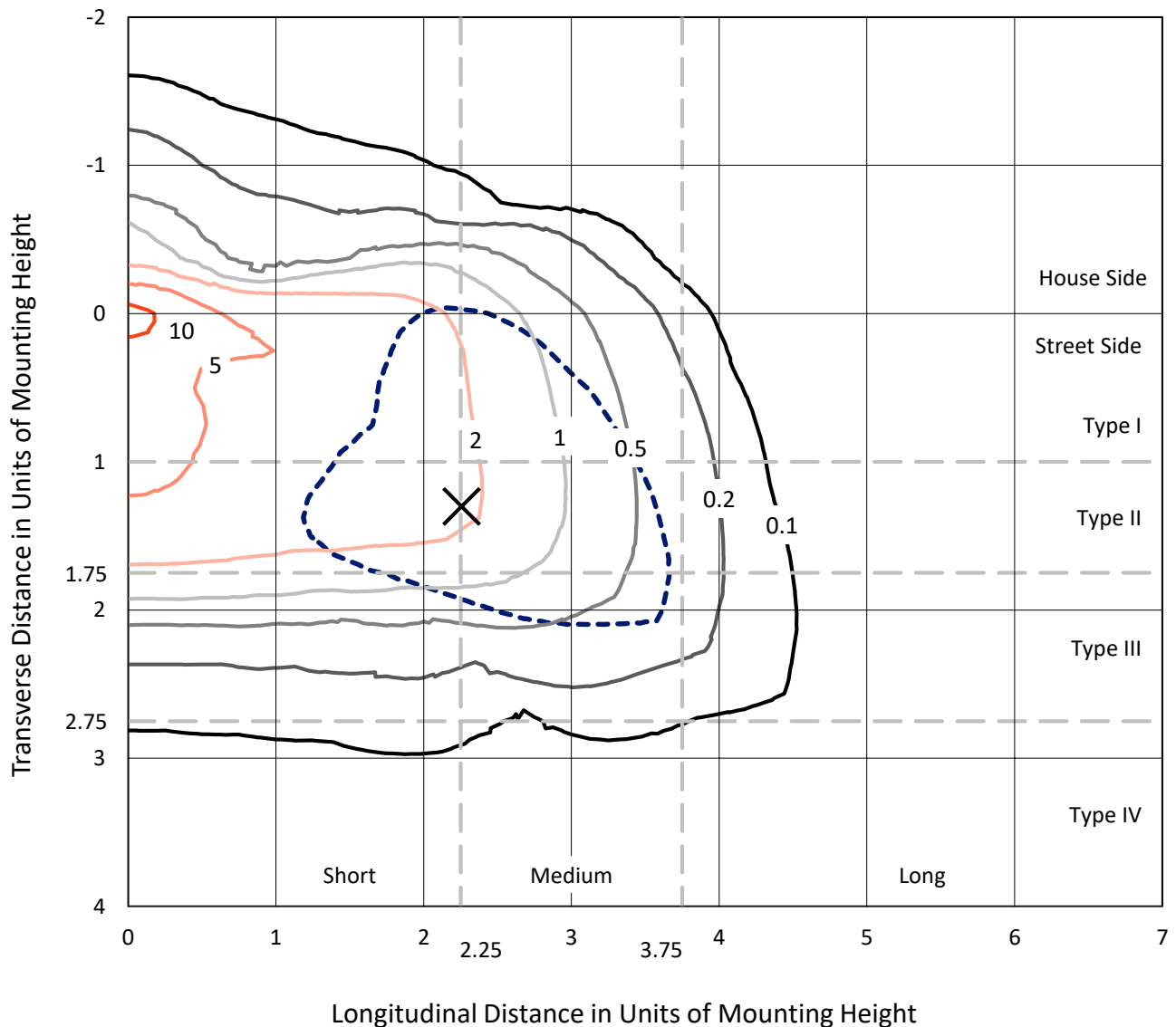
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

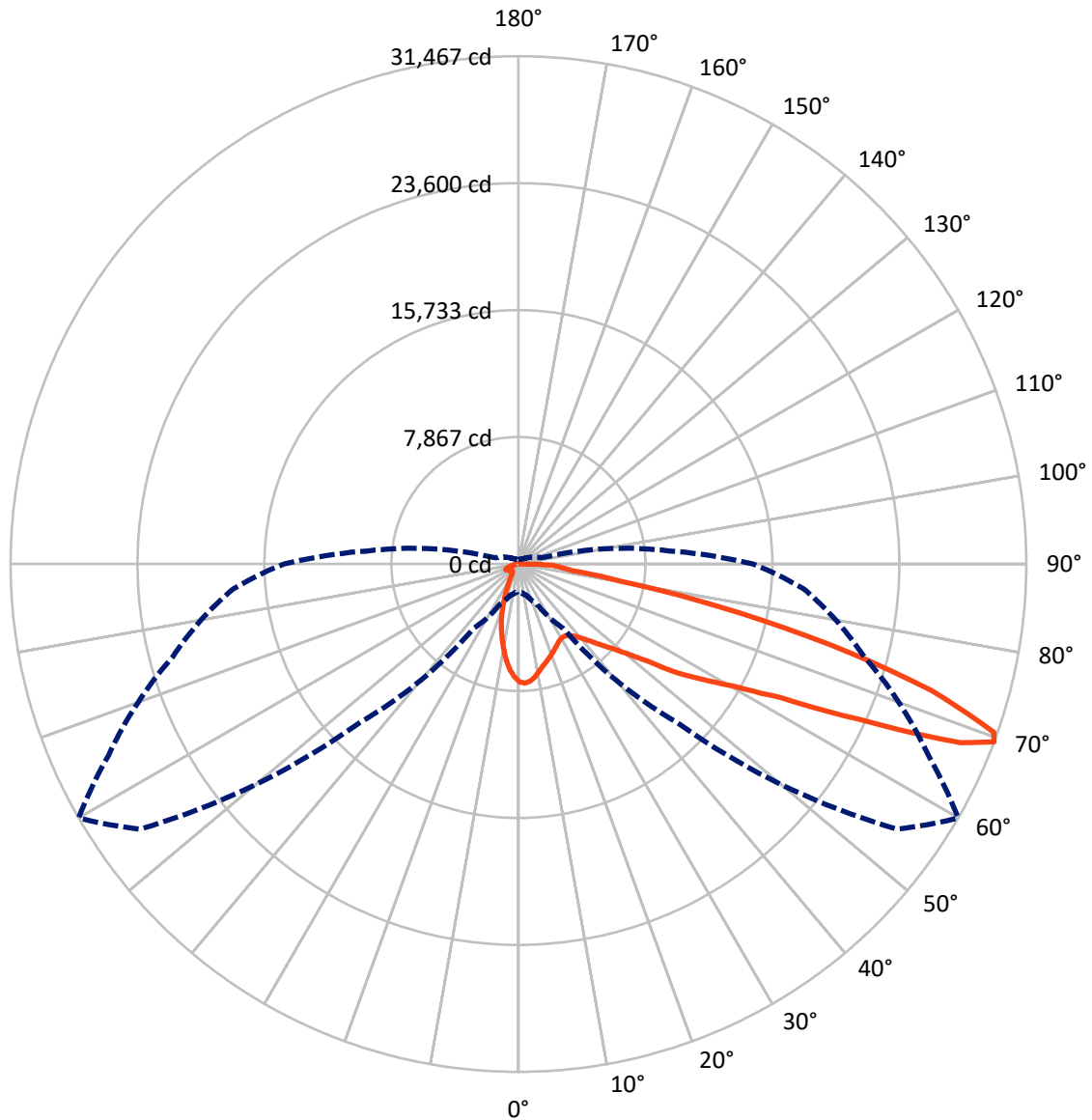
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.7 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4082.3	0.0	4082.3
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	24538.7	0.0	24538.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	28621.0	0.0	28621.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	619.5	2.2
10°-20°	1326.5	4.6
20°-30°	1692.2	5.9
30°-40°	2328.6	8.1
40°-50°	3771.8	13.2
50°-60°	5919.7	20.7
60°-70°	7892.1	27.6
70°-80°	4389.8	15.3
80°-90°	680.9	2.4
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°	28621.0	100.0
0°-180°	28621.0	100.0



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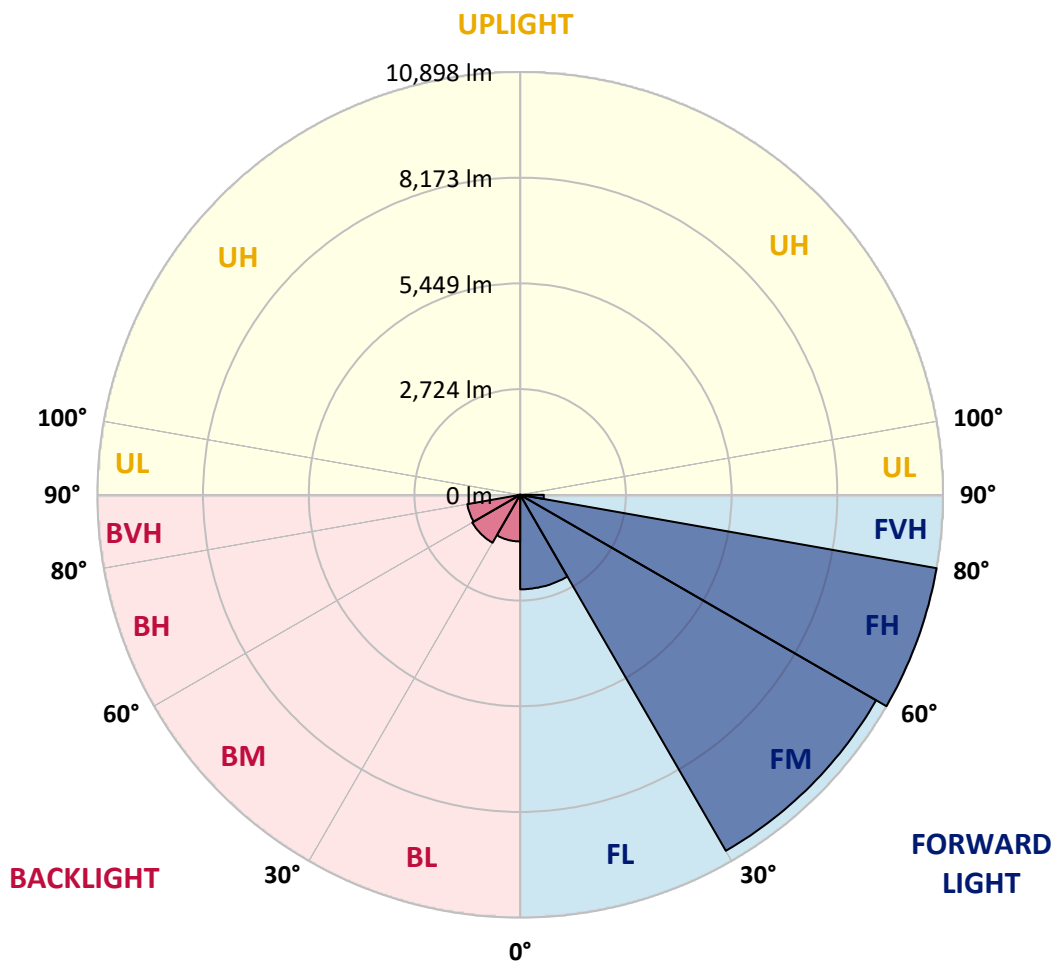
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2435.1	8.5			
FM (30°-60°)	10594.0	37.0			
FH (60°-80°)	10897.8	38.1			G4/12000
FVH (80°-90°)	611.8	2.1			G4/750
BL (0°-30°)	1203.1	4.2	B3/2500		
BM (30°-60°)	1426.1	5.0	B2/2500		
BH (60°-80°)	1384.1	4.8	B3/2500		G3/2500
BVH (80°-90°)	69.0	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7
2.5°	7497.3	7517.5	7517.5	7500.9	7491.8	7438.5	7407.3	7385.3	7346.8	7275.3	7211.0
5°	7229.3	7267.8	7284.4	7291.7	7339.4	7323.0	7324.8	7310.0	7277.0	7199.9	7095.4
7.5°	6737.5	6744.8	6774.2	6823.7	6939.3	7020.1	7086.2	7099.0	7091.7	7034.7	6887.9
10°	6252.9	6265.8	6300.6	6385.1	6495.1	6610.8	6753.9	6812.7	6856.8	6838.3	6653.0
12.5°	5851.0	5852.8	5891.4	5988.6	6111.6	6256.6	6451.2	6543.0	6647.5	6689.8	6482.3
15°	5463.8	5489.5	5526.2	5643.6	5796.0	5979.5	6203.3	6329.9	6467.6	6588.8	6350.2
17.5°	5170.0	5190.2	5212.3	5309.6	5485.8	5715.1	5992.4	6128.1	6309.9	6495.1	6214.4
20°	5008.6	5016.0	4999.3	5047.1	5195.7	5443.5	5764.8	5928.1	6144.6	6405.3	6074.9
22.5°	4975.5	4975.5	4914.9	4905.9	4971.8	5181.2	5529.8	5729.8	5994.1	6342.8	5950.2
25°	5129.7	5118.7	5004.8	4900.3	4876.4	4982.9	5305.8	5551.9	5865.8	6341.0	5856.5
27.5°	5421.5	5406.9	5265.5	5089.3	4937.1	4891.1	5133.4	5384.8	5764.8	6403.4	5808.8
30°	5784.9	5779.4	5636.2	5416.1	5164.5	4927.8	5065.5	5298.6	5696.8	6519.1	5807.0
32.5°	6183.3	6157.5	6069.4	5849.1	5522.5	5131.6	5105.8	5302.2	5678.5	6687.9	5849.1
35°	6607.2	6588.8	6566.8	6344.6	5977.6	5491.2	5283.9	5428.8	5768.3	6922.8	5968.5
37.5°	7146.7	7126.6	7163.3	6921.0	6519.1	5962.9	5584.9	5682.1	5951.9	7264.2	6190.5
40°	8106.7	8047.8	7945.1	7572.5	7150.4	6541.1	6019.8	6034.5	6265.8	7721.2	6546.6
42.5°	9683.1	9494.0	8985.7	8301.1	7816.6	7212.9	6586.9	6517.3	6698.9	8325.0	7064.1
45°	11263.4	11050.5	10191.5	9095.9	8506.7	7934.1	7288.0	7121.0	7238.5	9028.0	7730.4
47.5°	12283.9	12179.2	11210.0	9890.5	9229.8	8719.6	8090.0	7814.7	7899.2	9824.5	8552.7
50°	12583.0	12493.0	11731.3	10512.8	9912.5	9668.5	9083.0	8717.8	8732.5	10755.0	9538.2
52.5°	12359.1	12322.3	11817.7	10898.1	10540.3	10668.7	10457.7	9949.3	9828.1	11775.4	10606.3
55°	12059.8	12072.7	11878.2	11285.3	11179.0	11601.0	12256.2	11846.9	11333.0	12838.0	11718.5
57.5°	11118.3	11127.6	11637.7	12023.2	12397.6	12907.7	13656.7	13484.1	12885.7	13985.2	12964.7
60°	8952.7	9024.3	10160.3	11870.8	13790.6	15482.7	15666.4	15368.9	14537.6	15306.6	14585.3
62.5°	6396.1	6460.3	7776.3	10305.4	13627.3	18397.3	19377.2	18195.3	16778.5	17283.2	16864.7
65°	3360.5	3349.5	4368.1	7121.0	11478.2	19072.6	25224.6	23213.1	20553.7	20001.3	19067.2
67.5°	1877.5	1938.2	2332.7	3591.8	7480.7	16785.8	28959.5	29552.4	25802.7	22157.9	18971.7
69°	1736.2	1756.4	2020.6	2776.8	4876.4	13849.3	28638.3	31466.5	28016.2	22166.9	17749.4
70°	1686.7	1708.7	1949.1	2558.5	4096.5	11347.7	27469.2	31242.6	28553.9	21675.2	16637.1
72.5°	1512.2	1541.8	1774.7	2299.7	3452.2	5849.1	22126.6	26740.6	25865.2	18944.1	12900.5
75°	1290.2	1339.8	1692.1	2283.1	3270.5	3718.4	14756.0	19922.4	19250.7	13548.3	7319.3
77.5°	534.1	539.6	739.7	1671.9	3432.1	3558.6	7930.3	12619.7	11171.6	5940.9	2204.3
80°	372.5	365.3	368.9	488.1	2769.6	3582.5	4069.0	6418.1	4988.4	1567.4	1031.4
82.5°	313.9	310.2	324.8	306.5	937.8	4065.2	3402.7	3345.7	2349.2	844.2	491.8
85°	207.4	201.8	266.1	279.0	446.0	3228.2	3659.7	2630.0	1750.8	451.5	209.2
87.5°	100.9	102.8	152.4	189.1	236.8	1022.4	3505.5	2079.4	1352.7	196.4	84.4
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°	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7	7302.7
2.5°	7185.3	7130.1	7080.7	7018.3	6970.6	6930.2	6875.1	6873.3	6864.0	6877.0	6880.6
5°	7025.6	6933.8	6794.3	6638.4	6528.3	6383.3	6242.0	6194.3	6141.0	6135.5	6152.0
7.5°	6785.2	6642.0	6403.4	6164.9	5926.3	5682.1	5450.8	5333.4	5219.6	5184.7	5201.2
10°	6517.3	6335.6	5970.2	5581.2	5245.4	4882.0	4529.6	4302.1	4094.7	4006.5	4028.4
12.5°	6308.0	6076.8	5562.8	5058.1	4555.2	4034.0	3569.7	3120.1	2780.6	2628.3	2637.3
15°	6128.1	5832.6	5181.2	4509.4	3879.9	3165.9	2521.7	2000.4	1703.1	1593.1	1589.5
17.5°	5933.6	5575.7	4782.8	3999.2	3182.4	2299.7	1688.5	1380.2	1262.7	1225.9	1225.9
20°	5726.2	5311.4	4366.2	3443.1	2448.3	1605.9	1270.1	1150.8	1106.7	1095.8	1093.9
22.5°	5533.5	5052.6	3947.8	2850.2	1771.1	1218.6	1081.0	1035.1	1027.8	1037.0	1037.0
25°	5381.1	4825.1	3523.8	2226.2	1288.3	1020.5	961.7	956.2	983.7	1016.8	1022.4
27.5°	5267.3	4621.3	3105.4	1626.1	1013.1	888.3	868.1	891.9	956.2	1022.4	1035.1
30°	5188.4	4447.0	2604.4	1169.1	844.2	778.2	787.4	829.6	926.8	1027.8	1055.2
32.5°	5153.5	4305.7	2099.6	897.4	721.2	684.6	708.5	763.5	864.3	965.4	998.5
35°	5186.6	4202.9	1633.5	745.1	631.4	603.8	631.4	688.2	754.2	803.9	824.0
37.5°	5305.8	4166.2	1229.7	660.8	572.6	545.1	567.1	605.6	635.0	653.3	662.6
40°	5557.4	4204.6	963.5	616.6	539.6	508.4	513.9	532.2	552.5	567.1	568.9
42.5°	5957.4	4331.4	857.2	600.2	519.4	479.1	469.9	482.7	504.7	524.9	528.6
45°	6489.6	4542.4	846.1	605.6	510.1	455.1	436.8	449.6	479.1	512.0	517.6
47.5°	7177.9	4876.4	897.4	635.0	515.7	442.3	414.7	427.7	466.2	510.1	517.6
50°	7992.8	5338.9	992.8	679.1	541.4	442.3	405.7	416.6	457.0	506.6	513.9
52.5°	8952.7	5983.2	1092.0	723.1	578.1	458.9	409.3	407.4	444.1	490.0	499.2
55°	10011.7	6783.3	1187.5	761.7	598.4	480.9	418.4	396.4	425.7	462.4	469.9
57.5°	11257.9	7879.0	1354.5	798.4	609.3	497.4	429.5	385.5	401.9	427.7	433.2
60°	12948.2	9488.5	1679.3	860.8	629.5	504.7	431.2	374.5	372.5	390.9	392.7
62.5°	15152.4	11373.5	1989.4	934.1	669.9	506.6	424.0	367.0	348.7	354.2	354.2
65°	16719.8	12067.2	1899.6	996.6	706.5	504.7	416.6	361.6	330.3	321.1	321.1
67.5°	15827.7	10659.6	1613.3	1013.1	710.3	484.5	400.0	348.7	313.9	291.8	291.8
69°	14517.4	9343.6	1481.0	983.7	680.9	460.7	381.7	335.8	302.8	277.1	277.1
70°	13449.2	8347.1	1400.4	948.9	646.1	440.4	365.3	323.0	291.8	269.9	268.0
72.5°	10041.1	5570.2	1196.6	818.5	530.4	372.5	319.3	288.1	262.5	247.8	247.8
75°	5298.6	2791.6	980.1	668.1	409.3	297.2	262.5	242.3	227.6	225.7	223.9
77.5°	1736.2	1262.7	704.8	503.0	301.0	231.3	209.2	196.4	194.6	201.8	201.8
80°	937.8	754.2	453.4	339.5	209.2	172.6	161.5	159.7	165.2	176.2	176.2
82.5°	455.1	372.5	269.9	209.2	143.2	126.7	126.7	128.5	135.9	148.7	148.7
85°	196.4	176.2	155.9	117.5	88.2	79.0	89.9	99.2	104.7	113.7	117.5
87.5°	93.7	82.6	71.5	45.9	38.5	40.3	47.7	58.7	69.8	77.1	79.0
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)