

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: P196092

Luminaire Tested: **NAV-AF-06-D-UNV-SL2-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196092
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-06-D-UNV-SL2-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29186.8 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

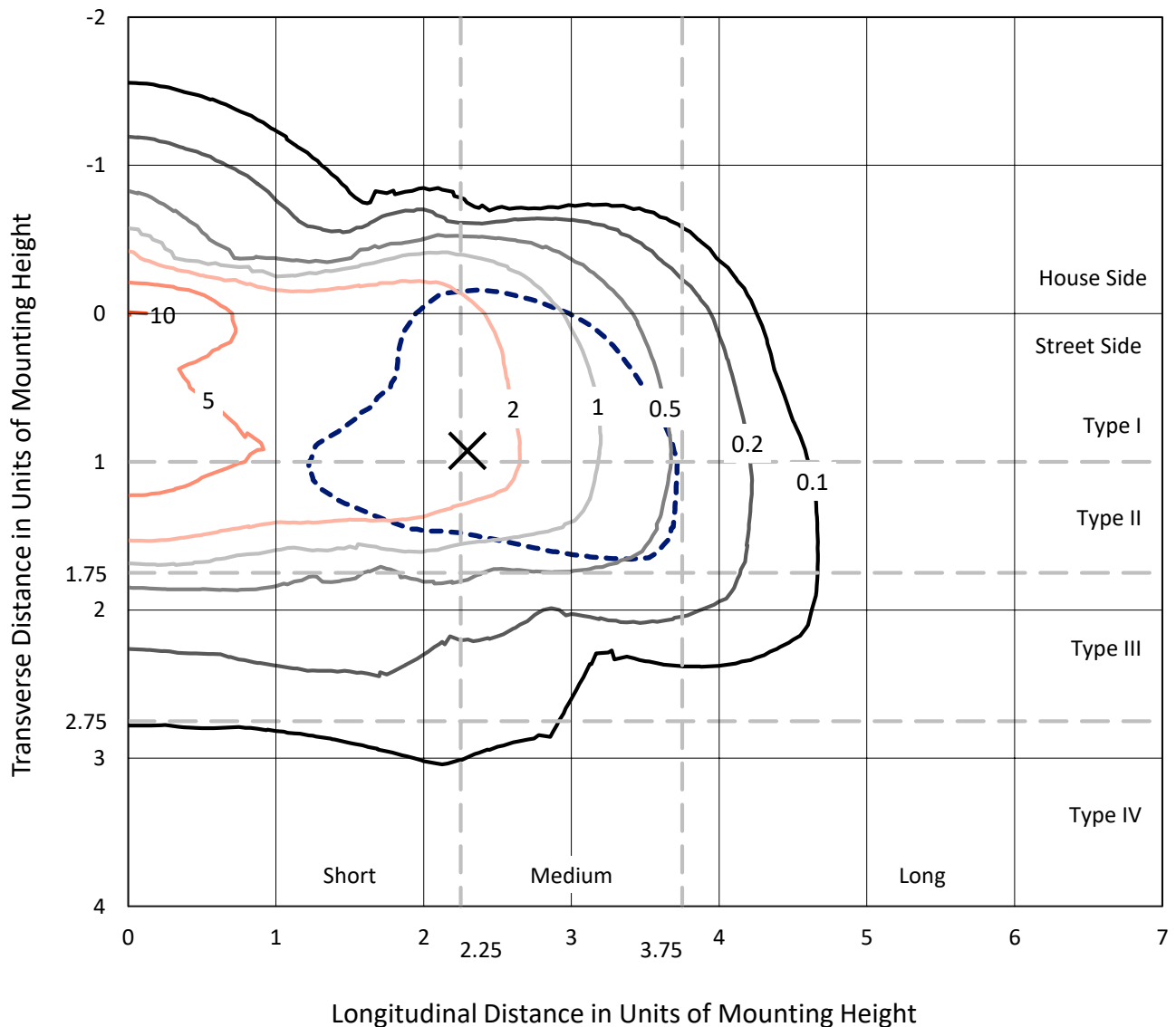
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

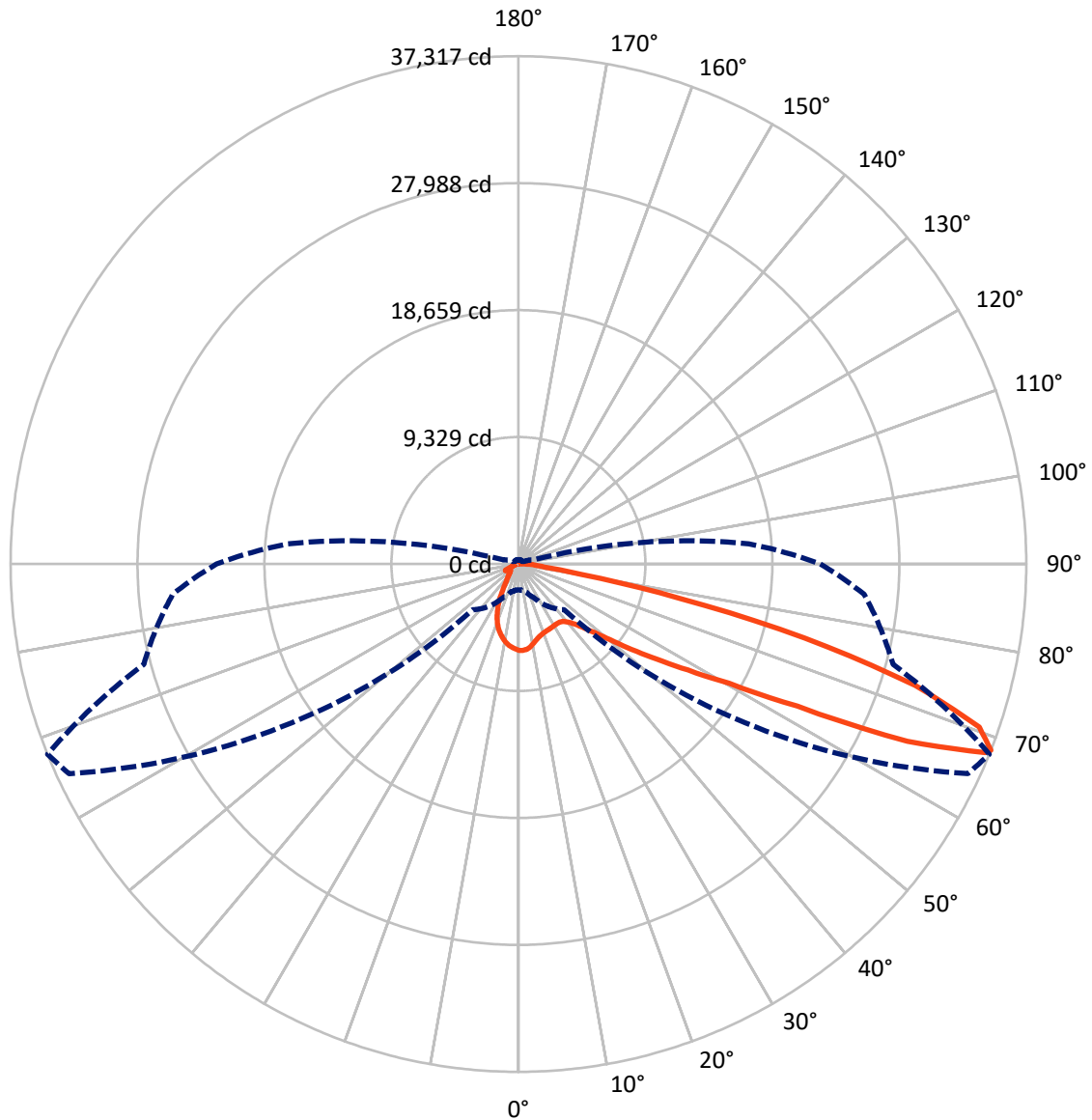
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4775.1	0.0	4775.1
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	24411.8	0.0	24411.8
	% Fixture	83.6	0.0	83.6
Total	Lumens	29186.8	0.0	29186.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	544.1	1.9
10°-20°	1262.1	4.3
20°-30°	1706.9	5.8
30°-40°	2406.7	8.2
40°-50°	3957.5	13.6
50°-60°	6134.5	21.0
60°-70°	7953.9	27.3
70°-80°	4564.3	15.6
80°-90°	656.7	2.2
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°	29186.8	100.0
0°-180°	29186.8	100.0



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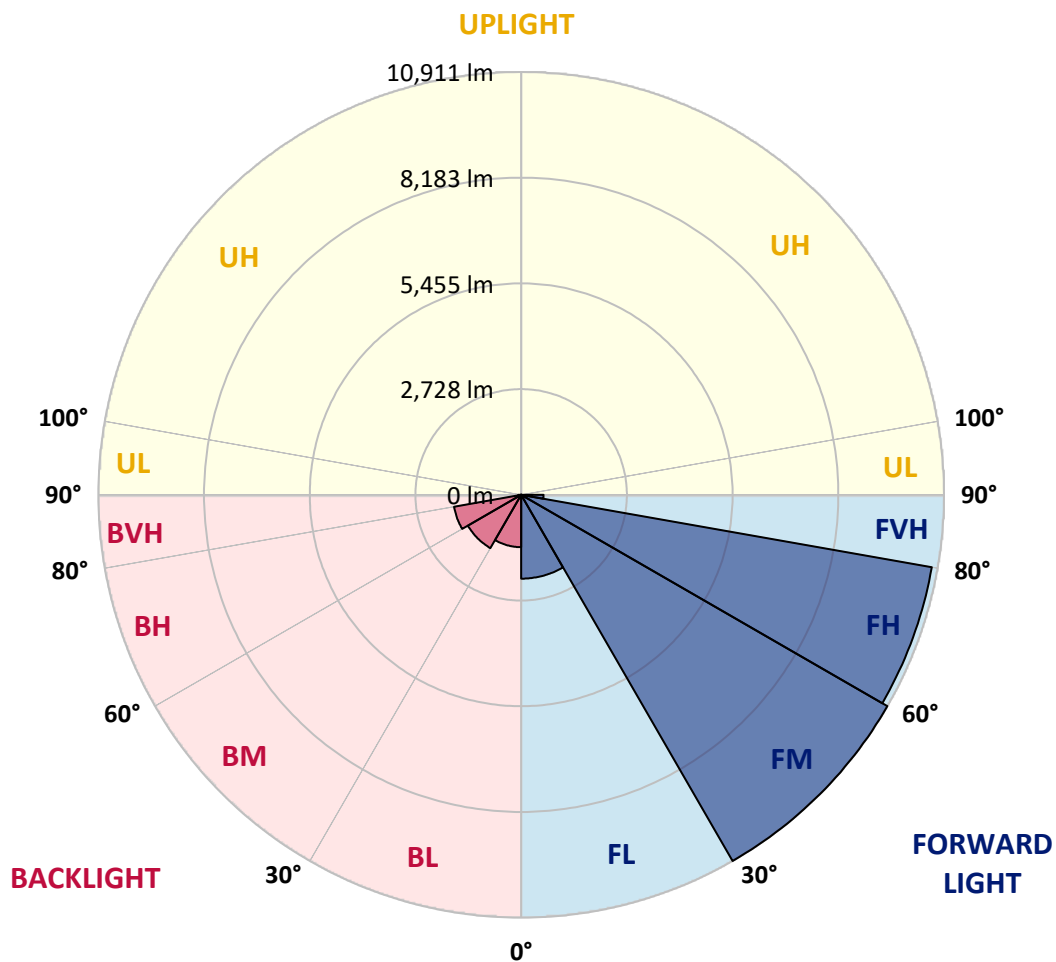
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2163.2	7.4			
FM	(30°-60°)	10910.5	37.4			
FH	(60°-80°)	10759.6	36.9			G4/12000
FVH	(80°-90°)	578.4	2.0			G4/750
BL	(0°-30°)	1349.9	4.6	B3/2500		
BM	(30°-60°)	1588.2	5.4	B2/2500		
BH	(60°-80°)	1758.6	6.0	B3/2500		G3/2500
BVH	(80°-90°)	78.3	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8
2.5°	6181.1	6230.7	6230.7	6266.9	6299.3	6326.0	6348.8	6348.8	6348.8	6333.6	6320.3
5°	5531.0	5597.7	5607.2	5698.8	5818.9	5965.6	6129.6	6274.6	6303.1	6356.5	6377.5
7.5°	5079.2	5100.1	5136.3	5199.2	5321.3	5502.4	5759.7	6083.9	6162.1	6329.8	6417.5
10°	4758.8	4776.0	4806.4	4869.3	4979.9	5143.9	5397.5	5818.9	5948.5	6245.9	6419.4
12.5°	4524.3	4537.6	4566.2	4623.4	4736.0	4882.7	5142.1	5580.5	5740.7	6162.1	6446.1
15°	4341.3	4364.1	4387.0	4442.3	4556.7	4697.8	4960.9	5407.0	5580.5	6095.4	6495.7
17.5°	4268.8	4280.2	4284.1	4312.7	4415.7	4558.6	4821.7	5285.0	5464.2	6042.0	6533.8
20°	4314.6	4316.4	4278.4	4259.3	4318.4	4449.9	4705.5	5193.5	5376.5	5994.3	6549.0
22.5°	4514.8	4514.8	4415.7	4331.7	4291.7	4373.7	4627.2	5130.6	5328.9	5958.1	6549.0
25°	4896.0	4879.0	4724.5	4558.6	4381.3	4347.0	4577.7	5090.5	5292.6	5938.9	6524.3
27.5°	5397.5	5382.3	5185.8	4939.9	4619.6	4404.2	4560.5	5058.2	5256.4	5910.4	6470.9
30°	6007.6	5994.3	5771.2	5449.0	4976.1	4585.3	4600.5	5035.3	5227.8	5862.7	6381.3
32.5°	6615.8	6608.2	6430.9	6101.1	5468.1	4892.3	4705.5	5031.5	5212.5	5805.6	6272.6
35°	7227.9	7227.9	7119.1	6840.8	6129.6	5353.6	4924.7	5102.0	5241.2	5775.0	6179.2
37.5°	8131.5	8095.3	7893.2	7605.3	6962.8	5952.3	5279.3	5250.7	5351.8	5826.5	6148.7
40°	9530.9	9426.1	8920.8	8436.6	7872.2	6718.7	5797.9	5538.6	5599.6	6001.9	6221.2
42.5°	10995.2	10829.4	10160.2	9386.1	8812.2	7664.5	6478.6	6005.7	6003.8	6341.3	6451.9
45°	12251.7	12165.9	11441.3	10459.5	9885.6	8728.3	7338.4	6699.7	6631.1	6867.5	6896.1
47.5°	12981.9	12924.7	12488.1	11595.8	11159.2	9984.7	8428.9	7662.5	7532.9	7674.0	7630.1
50°	12779.7	12835.1	12709.2	12253.5	12528.1	11750.2	9818.9	8981.8	8735.9	8877.0	8770.3
52.5°	11715.9	11864.6	11977.1	12064.8	13315.5	14112.4	11565.3	10629.2	10425.1	10400.3	10297.4
55°	9799.8	10036.2	10390.8	11035.3	13103.9	16009.5	14615.8	12621.5	12324.1	12167.8	12207.8
57.5°	6669.2	7027.7	7792.1	9018.1	12003.8	16817.9	19126.7	15195.4	14692.0	14135.3	14264.9
60°	3673.9	3973.3	4882.7	6118.2	9492.8	16697.7	23124.8	19378.4	17794.0	16318.3	16585.3
62.5°	2377.5	2442.3	3119.2	4179.2	5826.5	14741.6	25346.0	26369.8	23012.3	19197.3	19572.8
65°	1910.4	1956.2	2287.9	3370.8	4059.1	9483.3	25445.1	33622.4	31408.9	23109.6	23121.0
67.5°	1866.6	1887.5	2080.1	2835.1	3807.4	5163.0	21994.3	36482.3	36995.1	27727.3	25494.7
68°	1893.3	1918.0	2112.5	2747.3	3805.5	4758.8	20327.9	36438.4	37317.3	28499.4	25494.7
70°	1670.2	1700.7	2154.4	2842.7	3643.4	4091.5	13919.9	34503.2	35918.0	30274.4	24190.6
72.5°	873.2	848.4	1065.8	2244.0	4101.0	4263.1	7353.7	28825.5	30476.6	28038.1	20899.8
75°	680.7	619.6	596.8	886.6	3607.2	4421.3	4270.7	20488.1	21734.9	20211.6	13969.4
77.5°	640.6	566.2	522.4	524.3	1588.1	4600.5	3454.7	12057.2	12057.2	9641.5	4457.6
80°	514.7	446.1	417.6	476.6	766.4	4240.2	3605.3	5494.8	4686.3	2491.9	1227.8
82.5°	339.4	303.1	305.0	387.1	581.5	2831.2	4175.4	2713.1	2038.1	1103.9	722.6
85°	215.4	184.9	205.9	270.8	434.7	1262.1	4133.4	1885.6	1349.9	619.6	360.4
87.5°	108.6	83.9	102.9	141.1	265.0	362.2	3403.3	1683.5	1001.0	257.4	196.4
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°	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8	6350.8
2.5°	6320.3	6278.4	6257.4	6223.0	6181.1	6139.1	6110.6	6097.2	6089.6	6093.4	6091.5
5°	6366.0	6310.8	6221.2	6093.4	5961.9	5822.6	5715.9	5633.9	5582.4	5567.2	5563.4
7.5°	6400.4	6320.3	6152.5	5919.9	5695.0	5450.9	5243.0	5077.2	4964.7	4913.2	4911.3
10°	6394.7	6291.7	6026.7	5683.5	5353.6	4995.2	4669.2	4390.8	4188.8	4091.5	4087.7
12.5°	6400.4	6259.2	5872.2	5407.0	4934.2	4421.3	3937.0	3504.3	3203.1	3060.1	3054.3
15°	6423.2	6225.0	5714.0	5098.2	4444.2	3719.8	3027.6	2484.2	2209.7	2116.3	2116.3
17.5°	6421.4	6167.8	5531.0	4739.7	3862.8	2892.3	2066.8	1731.1	1704.4	1790.3	1803.7
20°	6383.2	6076.2	5294.6	4314.6	3180.1	2001.9	1401.3	1353.7	1567.2	1803.7	1830.3
22.5°	6324.1	5958.1	5021.9	3820.7	2385.1	1304.1	1081.1	1153.5	1443.3	1736.9	1778.8
25°	6242.1	5815.1	4709.3	3246.8	1586.3	938.0	901.8	991.4	1195.4	1391.8	1422.3
27.5°	6122.1	5633.9	4368.0	2625.3	1012.4	772.1	785.5	848.4	936.1	1020.0	1037.2
30°	5971.4	5422.3	3996.2	1937.1	768.3	690.2	713.1	751.2	789.3	842.7	854.2
32.5°	5818.9	5206.8	3609.2	1330.8	671.2	646.3	669.2	690.2	722.6	758.8	766.4
35°	5681.6	5006.6	3210.6	928.5	629.2	617.8	629.2	642.5	674.9	711.2	714.9
37.5°	5582.4	4842.6	2795.0	734.1	604.4	592.9	598.6	604.4	642.5	695.9	701.6
40°	5569.1	4734.0	2373.7	659.7	585.3	570.1	566.2	570.1	619.6	680.7	686.4
42.5°	5698.8	4739.7	1961.8	629.2	570.1	552.9	537.7	545.2	589.1	636.8	640.6
45°	6005.7	4873.2	1605.3	615.8	556.7	543.4	520.5	524.3	545.2	570.1	573.9
47.5°	6547.2	5164.9	1332.7	608.2	545.2	533.9	505.2	493.8	495.7	509.0	509.0
50°	7412.7	5653.0	1166.8	600.6	535.7	514.7	482.3	459.5	453.8	461.4	463.3
52.5°	8703.5	6490.0	1086.8	585.3	518.6	490.0	453.8	430.9	421.4	429.0	429.0
55°	10448.0	7826.5	1048.6	564.4	497.7	459.5	427.1	408.1	400.4	406.1	406.1
57.5°	12436.5	9563.4	1113.5	535.7	471.0	427.1	404.2	390.9	385.1	390.9	392.7
60°	14798.8	11836.1	1559.6	499.5	442.3	398.4	385.1	377.5	373.7	379.4	379.4
62.5°	17939.0	14859.8	2413.8	471.0	411.8	371.7	368.0	364.2	360.4	366.0	366.0
65°	21328.8	17611.0	2484.2	453.8	385.1	348.9	350.8	350.8	347.0	352.7	352.7
67.5°	22407.9	17372.7	1387.9	432.8	352.7	326.0	333.7	333.7	331.7	337.5	335.5
68°	22179.2	16995.2	1208.7	427.1	347.0	320.3	328.0	329.8	328.0	333.7	331.7
70°	20474.7	14920.9	795.0	394.7	322.2	301.3	312.7	314.6	312.7	320.3	318.4
72.5°	16901.8	11191.6	587.2	345.0	291.7	276.5	287.9	289.8	291.7	299.3	297.5
75°	10734.0	6181.1	463.3	293.6	261.2	247.9	259.3	265.0	268.8	280.3	274.6
77.5°	2940.0	1876.1	375.6	249.8	224.9	219.2	226.9	234.5	238.3	251.6	242.1
80°	1029.6	829.4	312.7	211.6	186.9	184.9	192.5	200.2	204.0	215.4	204.0
82.5°	625.3	541.4	249.8	165.9	146.8	144.8	154.5	162.0	165.9	165.9	158.3
85°	326.0	286.0	183.0	116.3	101.1	95.3	112.5	122.0	123.9	122.0	116.3
87.5°	183.0	162.0	97.3	55.3	45.7	47.7	59.1	72.4	78.2	76.3	72.4
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)