

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: P195670

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195670
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-04-D-UNV-SL3-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 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: 26728 lumens
Efficiency: N/A
Efficacy: 103.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

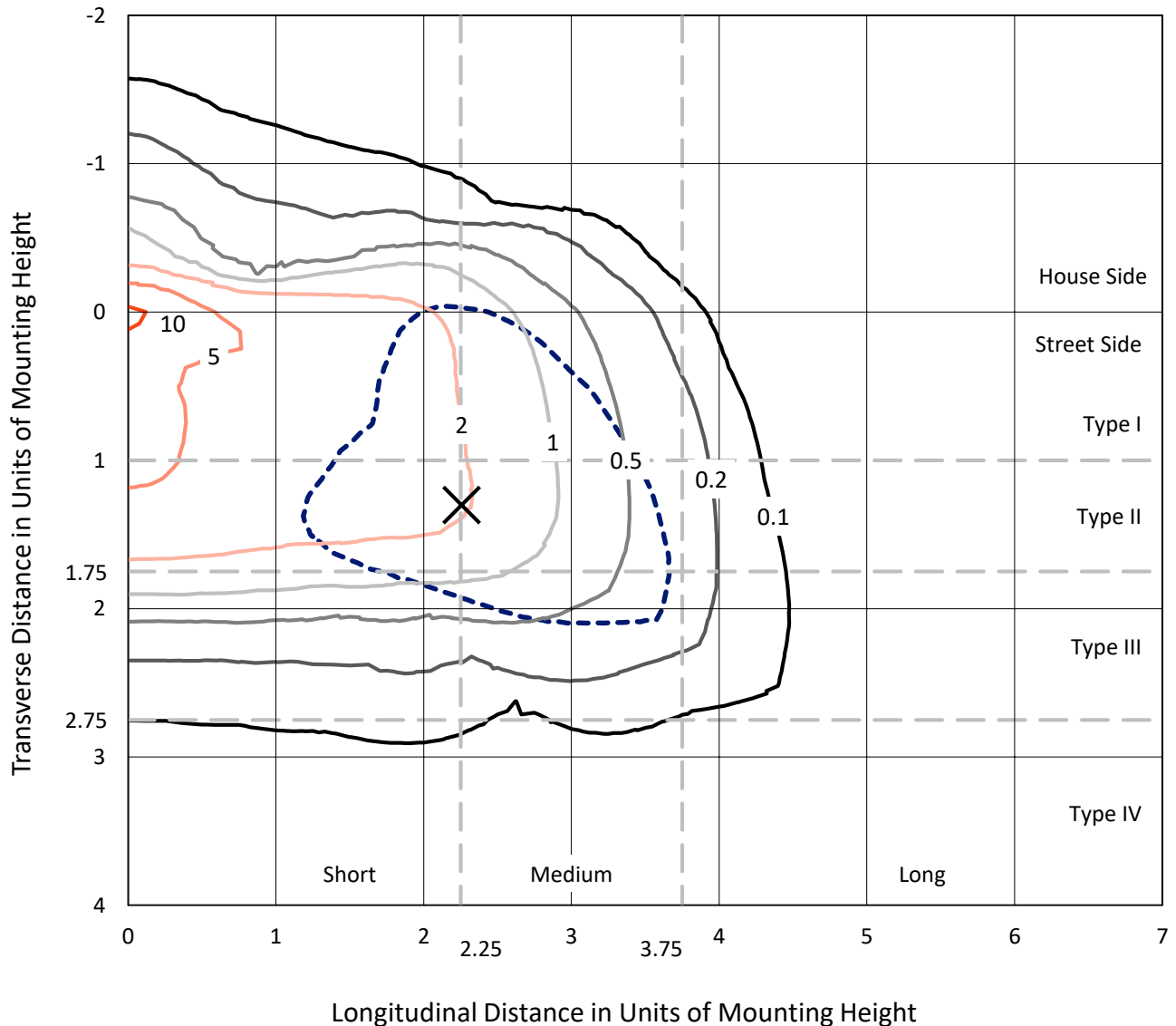
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

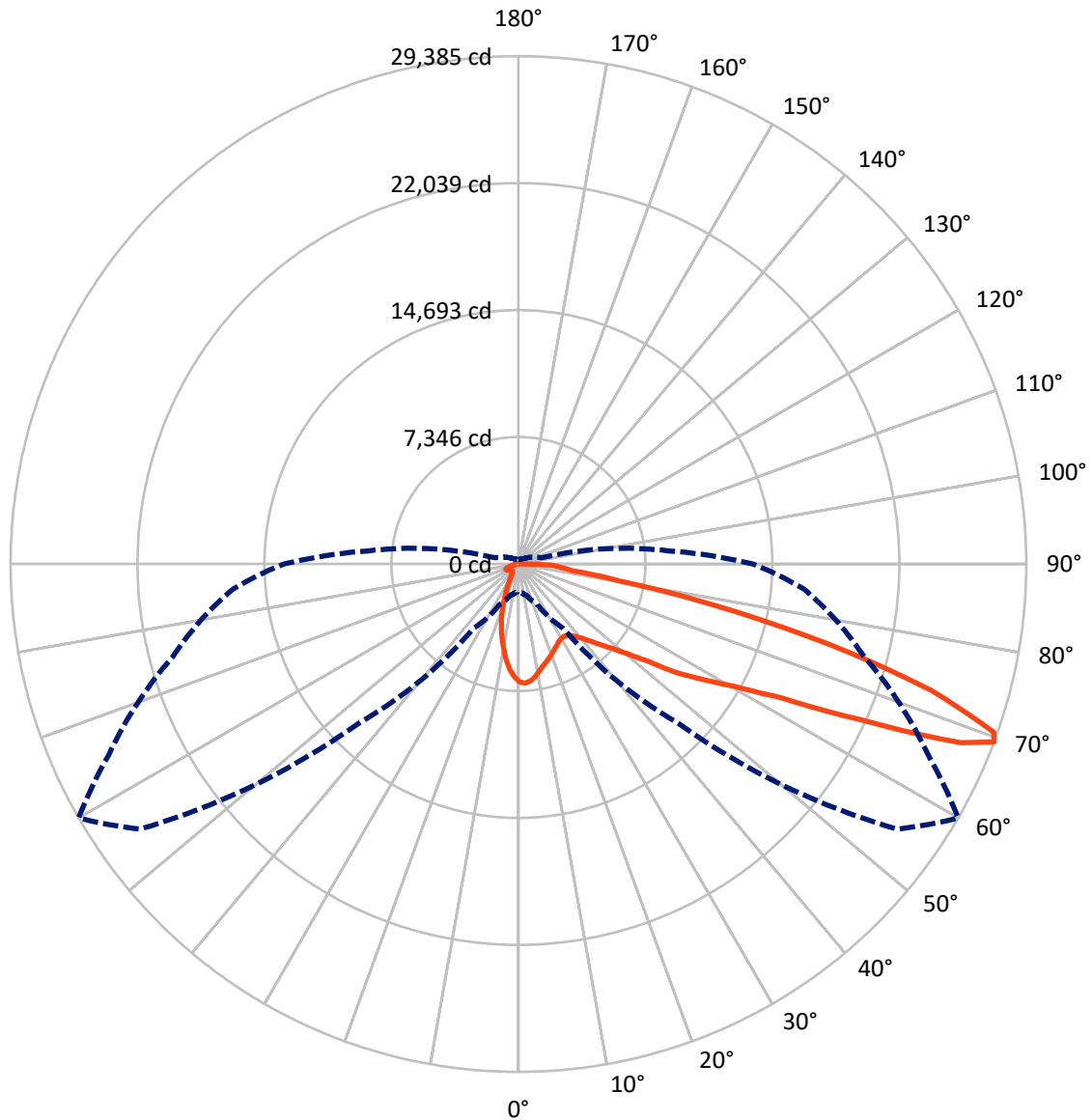
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.9 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	3812.3	0.0	3812.3
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	22915.7	0.0	22915.7
	% Fixture	85.7	0.0	85.7
Total	Lumens	26728.0	0.0	26728.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	578.5	2.2
10°-20°	1238.7	4.6
20°-30°	1580.2	5.9
30°-40°	2174.6	8.1
40°-50°	3522.4	13.2
50°-60°	5528.2	20.7
60°-70°	7370.1	27.6
70°-80°	4099.5	15.3
80°-90°	635.8	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°	26728.0	100.0
0°-180°	26728.0	100.0

Coefficient of Utilization



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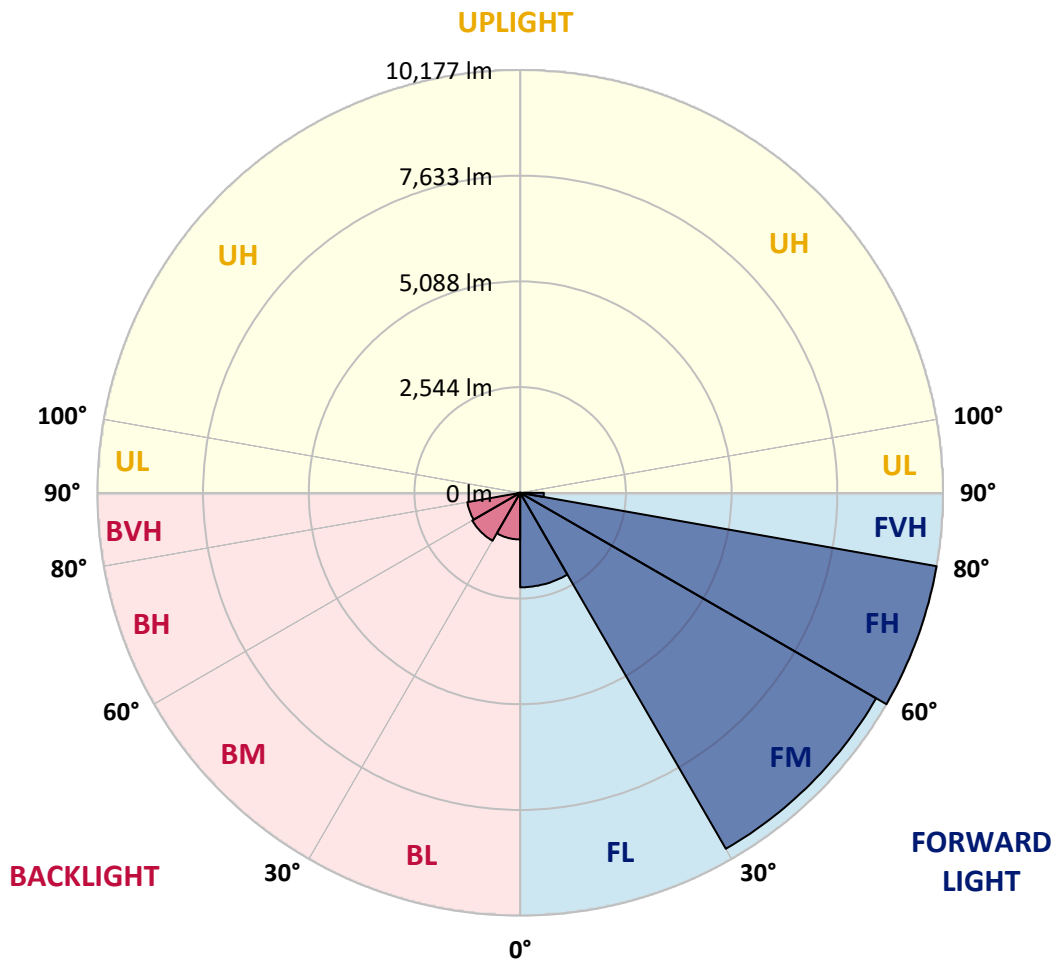
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2274.0	8.5			
FM (30°-60°)	9893.3	37.0			
FH (60°-80°)	10177.0	38.1			G4/12000
FVH (80°-90°)	571.4	2.1			G4/750
BL (0°-30°)	1123.5	4.2	B3/2500		
BM (30°-60°)	1331.8	5.0	B2/2500		
BH (60°-80°)	1292.6	4.8	B3/2500		G3/2500
BVH (80°-90°)	64.4	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°	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7
2.5°	7001.4	7020.3	7020.3	7004.8	6996.3	6946.6	6917.4	6896.9	6860.9	6794.0	6734.0
5°	6751.2	6787.2	6802.6	6809.5	6854.0	6838.6	6840.3	6826.6	6795.7	6723.8	6626.1
7.5°	6291.8	6298.7	6326.1	6372.4	6480.4	6555.8	6617.5	6629.5	6622.6	6569.5	6432.4
10°	5839.4	5851.4	5883.9	5962.8	6065.6	6173.6	6307.3	6362.1	6403.2	6386.1	6213.0
12.5°	5464.0	5465.7	5501.7	5592.6	5707.4	5842.8	6024.5	6110.2	6207.9	6247.3	6053.6
15°	5102.4	5126.4	5160.6	5270.3	5412.6	5584.0	5793.1	5911.4	6039.9	6153.0	5930.2
17.5°	4828.1	4847.0	4867.6	4958.4	5122.9	5337.2	5596.0	5722.8	5892.5	6065.6	5803.4
20°	4677.3	4684.2	4668.7	4713.3	4852.1	5083.5	5383.5	5536.0	5738.2	5981.6	5673.1
22.5°	4646.5	4646.5	4589.9	4581.3	4643.0	4838.4	5164.1	5350.9	5597.7	5923.3	5556.6
25°	4790.4	4780.2	4673.9	4576.2	4553.9	4653.3	4955.0	5184.6	5477.7	5921.6	5469.2
27.5°	5063.0	5049.2	4917.3	4752.7	4610.5	4567.6	4793.9	5028.7	5383.5	5979.9	5424.6
30°	5402.3	5397.2	5263.5	5057.8	4823.0	4601.9	4730.5	4948.1	5320.0	6087.9	5422.9
32.5°	5774.2	5750.2	5668.0	5462.3	5157.2	4792.2	4768.2	4951.5	5302.9	6245.6	5462.3
35°	6170.2	6153.0	6132.4	5925.1	5582.3	5128.1	4934.4	5069.8	5386.9	6465.0	5573.7
37.5°	6674.0	6655.2	6689.5	6463.2	6087.9	5568.6	5215.5	5306.3	5558.3	6783.7	5781.1
40°	7570.4	7515.6	7419.6	7071.7	6677.5	6108.5	5621.7	5635.4	5851.4	7210.5	6113.6
42.5°	9042.7	8866.2	8391.4	7752.1	7299.6	6735.8	6151.3	6086.2	6255.9	7774.4	6596.9
45°	10518.4	10319.6	9517.5	8494.2	7944.1	7409.3	6806.0	6650.1	6759.7	8430.8	7219.1
47.5°	11471.3	11373.7	10468.7	9236.4	8619.4	8142.9	7555.0	7297.9	7376.8	9174.7	7986.9
50°	11750.7	11666.7	10955.5	9817.4	9256.9	9029.0	8482.2	8141.2	8154.9	10043.6	8907.3
52.5°	11541.6	11507.3	11036.0	10177.3	9843.1	9963.1	9766.0	9291.2	9178.1	10996.6	9904.8
55°	11262.2	11274.2	11092.6	10539.0	10439.6	10833.8	11445.6	11063.4	10583.5	11989.0	10943.5
57.5°	10383.0	10391.6	10868.0	11228.0	11577.6	12054.1	12753.4	12592.3	12033.5	13060.2	12107.2
60°	8360.6	8427.4	9488.3	11085.7	12878.5	14458.7	14630.1	14352.5	13576.1	14294.2	13620.6
62.5°	5973.1	6033.0	7261.9	9623.7	12725.9	17180.5	18095.7	16991.9	15668.8	16140.1	15749.3
65°	3138.2	3127.9	4079.2	6650.1	10718.9	17811.2	23556.3	21677.8	19194.3	18678.4	17806.0
67.5°	1753.4	1809.9	2178.4	3354.2	6986.0	15675.6	27044.1	27597.7	24096.2	20692.3	17716.9
69°	1621.4	1640.2	1887.0	2593.2	4553.9	12933.3	26744.2	29385.4	26163.2	20700.9	16575.4
70°	1575.1	1595.7	1820.2	2389.2	3825.5	10597.2	25652.4	29176.3	26665.3	20241.5	15536.8
72.5°	1412.3	1439.7	1657.4	2147.6	3223.9	5462.3	20663.2	24972.0	24154.4	17691.2	12047.2
75°	1204.9	1251.2	1580.2	2132.1	3054.2	3472.4	13780.0	18604.7	17977.4	12652.2	6835.2
77.5°	498.8	503.9	690.7	1561.4	3205.1	3323.3	7405.9	11785.0	10432.7	5548.0	2058.4
80°	347.9	341.1	344.5	455.9	2586.3	3345.6	3799.8	5993.6	4658.5	1463.7	963.2
82.5°	293.1	289.7	303.4	286.2	875.8	3796.4	3177.6	3124.5	2193.8	788.4	459.3
85°	193.7	188.5	248.5	260.5	416.5	3014.8	3417.6	2456.1	1635.1	421.6	195.4
87.5°	94.3	96.0	142.3	176.5	221.1	954.7	3273.6	1941.9	1263.2	183.4	78.8
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°	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7	6819.7
2.5°	6710.0	6658.6	6612.3	6554.1	6509.5	6471.8	6420.4	6418.7	6410.1	6422.1	6425.5
5°	6560.9	6475.2	6345.0	6199.3	6096.5	5961.1	5829.1	5784.5	5734.8	5729.7	5745.1
7.5°	6336.4	6202.7	5979.9	5757.1	5534.3	5306.3	5090.4	4980.7	4874.4	4841.9	4857.3
10°	6086.2	5916.5	5575.4	5212.1	4898.4	4559.1	4230.0	4017.5	3823.8	3741.5	3762.1
12.5°	5890.8	5674.8	5194.9	4723.6	4254.0	3767.2	3333.6	2913.7	2596.6	2454.4	2462.9
15°	5722.8	5446.9	4838.4	4211.1	3623.3	2956.5	2354.9	1868.2	1590.5	1487.7	1484.3
17.5°	5541.1	5206.9	4466.5	3734.7	2972.0	2147.6	1576.8	1288.9	1179.2	1144.9	1144.9
20°	5347.5	4960.1	4077.4	3215.3	2286.4	1499.7	1186.0	1074.6	1033.5	1023.2	1021.5
22.5°	5167.5	4718.5	3686.7	2661.7	1653.9	1138.1	1009.5	966.7	959.8	968.4	968.4
25°	5025.2	4505.9	3290.7	2079.0	1203.2	952.9	898.1	893.0	918.7	949.5	954.7
27.5°	4919.0	4315.7	2900.0	1518.5	946.1	829.5	810.7	833.0	893.0	954.7	966.7
30°	4845.3	4152.9	2432.1	1091.8	788.4	726.7	735.3	774.7	865.5	959.8	985.5
32.5°	4812.7	4020.9	1960.7	838.1	673.6	639.3	661.6	713.0	807.3	901.5	932.4
35°	4843.6	3924.9	1525.4	695.9	589.6	563.9	589.6	642.7	704.4	750.7	769.6
37.5°	4955.0	3890.6	1148.3	617.0	534.7	509.0	529.6	565.6	593.0	610.2	618.7
40°	5189.8	3926.6	899.8	575.9	503.9	474.8	479.9	497.0	515.9	529.6	531.3
42.5°	5563.4	4044.9	800.4	560.5	485.0	447.3	438.8	450.8	471.3	490.2	493.6
45°	6060.5	4242.0	790.1	565.6	476.5	425.1	407.9	419.9	447.3	478.2	483.3
47.5°	6703.2	4553.9	838.1	593.0	481.6	413.1	387.3	399.3	435.3	476.5	483.3
50°	7464.2	4985.8	927.2	634.2	505.6	413.1	378.8	389.1	426.8	473.0	479.9
52.5°	8360.6	5587.4	1019.8	675.3	539.9	428.5	382.2	380.5	414.8	457.6	466.2
55°	9349.5	6334.7	1108.9	711.3	558.7	449.1	390.8	370.2	397.6	431.9	438.8
57.5°	10513.3	7357.9	1264.9	745.6	569.0	464.5	401.1	359.9	375.4	399.3	404.5
60°	12091.8	8861.0	1568.2	803.8	587.9	471.3	402.8	349.6	347.9	365.1	366.8
62.5°	14150.2	10621.2	1857.9	872.4	625.6	473.0	395.9	342.8	325.6	330.8	330.8
65°	15613.9	11269.1	1773.9	930.7	659.9	471.3	389.1	337.6	308.5	299.9	299.9
67.5°	14780.9	9954.5	1506.5	946.1	663.3	452.5	373.6	325.6	293.1	272.5	272.5
69°	13557.2	8725.6	1383.1	918.7	635.9	430.2	356.5	313.6	282.8	258.8	258.8
70°	12559.7	7795.0	1307.7	886.1	603.3	411.3	341.1	301.7	272.5	251.9	250.2
72.5°	9376.9	5201.8	1117.5	764.4	495.3	347.9	298.2	269.1	245.1	231.4	231.4
75°	4948.1	2606.9	915.2	623.9	382.2	277.7	245.1	226.2	212.5	210.8	209.1
77.5°	1621.4	1179.2	658.1	469.6	281.1	216.0	195.4	183.4	181.7	188.5	188.5
80°	875.8	704.4	423.3	317.1	195.4	161.1	150.8	149.1	154.3	164.5	164.5
82.5°	425.1	347.9	251.9	195.4	133.7	118.3	118.3	120.0	126.8	138.8	138.8
85°	183.4	164.5	145.7	109.7	82.3	73.7	84.0	92.6	97.7	106.3	109.7
87.5°	87.4	77.1	66.8	42.8	36.0	37.7	44.6	54.8	65.1	72.0	73.7
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)