

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: P195179

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195179
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-SL3-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 800mA 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: 24263 lumens
Efficiency: N/A
Efficacy: 115.5 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

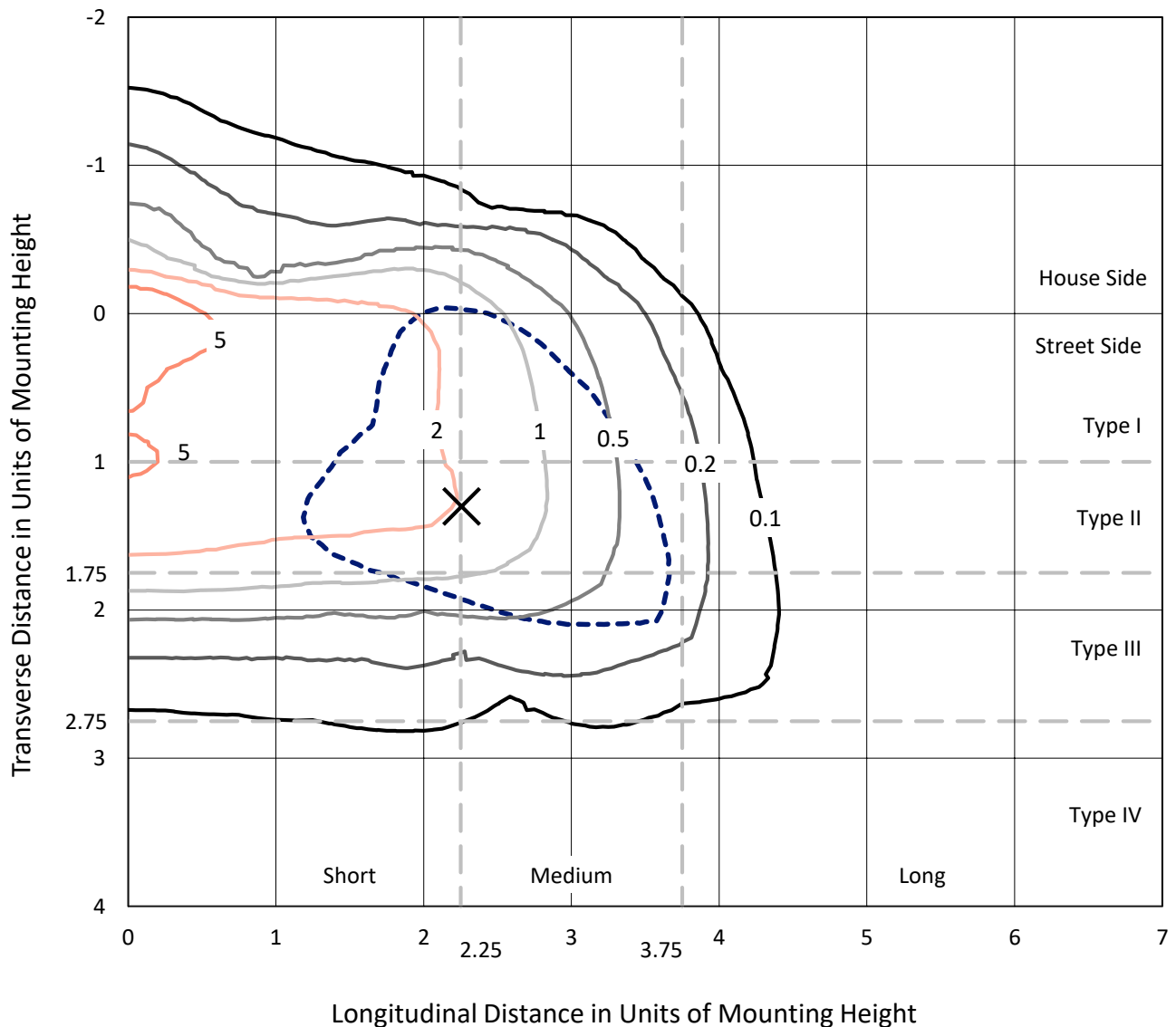
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

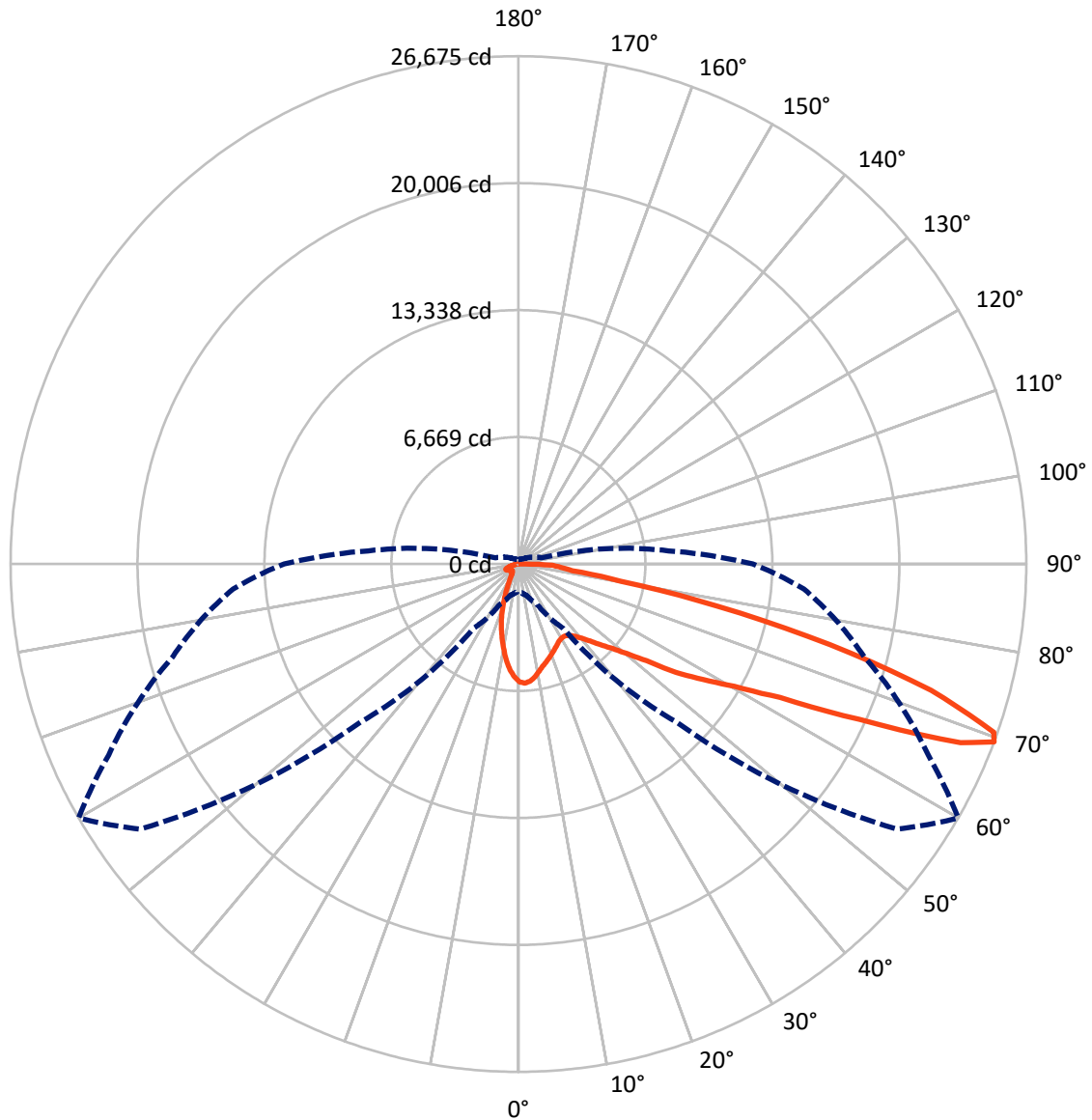
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.9 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	3460.7	0.0	3460.7
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	20802.3	0.0	20802.3
	% Fixture	85.7	0.0	85.7
Total	Lumens	24263.0	0.0	24263.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	525.2	2.2
10°-20°	1124.5	4.6
20°-30°	1434.5	5.9
30°-40°	1974.0	8.1
40°-50°	3197.5	13.2
50°-60°	5018.4	20.7
60°-70°	6690.4	27.6
70°-80°	3721.4	15.3
80°-90°	577.2	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°	24263.0	100.0
0°-180°	24263.0	100.0

Coefficient of Utilization



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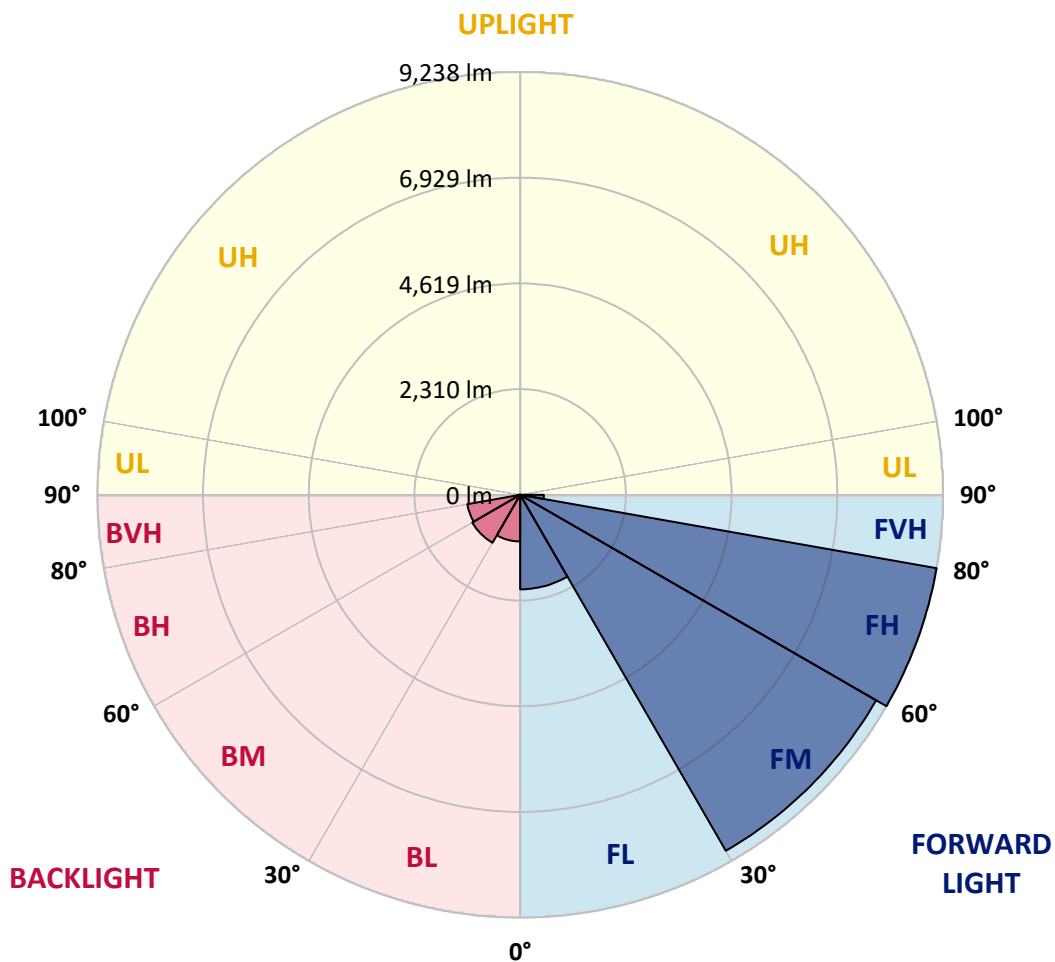
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2064.3	8.5			
FM	(30°-60°)	8980.9	37.0			
FH	(60°-80°)	9238.4	38.1			G4/12000
FVH	(80°-90°)	518.7	2.1			G4/750
BL	(0°-30°)	1019.9	4.2	B3/2500		
BM	(30°-60°)	1209.0	5.0	B2/2500		
BH	(60°-80°)	1173.3	4.8	B3/2500		G3/2500
BVH	(80°-90°)	58.5	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°	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8
2.5°	6355.7	6372.8	6372.8	6358.8	6351.0	6305.9	6279.5	6260.8	6228.1	6167.4	6113.0
5°	6128.5	6161.2	6175.2	6181.4	6221.9	6207.9	6209.5	6197.0	6169.0	6103.7	6015.0
7.5°	5711.6	5717.8	5742.7	5784.7	5882.7	5951.2	6007.2	6018.1	6011.9	5963.6	5839.2
10°	5300.8	5311.7	5341.3	5412.8	5506.2	5604.2	5725.6	5775.4	5812.7	5797.1	5640.0
12.5°	4960.1	4961.6	4994.3	5076.8	5181.0	5303.9	5468.9	5546.7	5635.3	5671.1	5495.3
15°	4631.8	4653.6	4684.7	4784.3	4913.4	5069.0	5258.8	5366.2	5482.9	5585.6	5383.3
17.5°	4382.9	4400.0	4418.7	4501.1	4650.5	4845.0	5079.9	5195.0	5349.1	5506.2	5268.2
20°	4246.0	4252.2	4238.2	4278.6	4404.6	4614.7	4887.0	5025.4	5209.0	5430.0	5149.9
22.5°	4217.9	4217.9	4166.6	4158.8	4214.8	4392.2	4687.8	4857.4	5081.5	5377.1	5044.1
25°	4348.6	4339.3	4242.8	4154.2	4133.9	4224.2	4498.0	4706.5	4972.5	5375.5	4964.8
27.5°	4596.0	4583.6	4463.8	4314.4	4185.3	4146.4	4351.8	4564.9	4887.0	5428.4	4924.3
30°	4904.1	4899.4	4778.1	4591.4	4378.2	4177.5	4294.2	4491.8	4829.4	5526.4	4922.8
32.5°	5241.7	5219.9	5145.2	4958.5	4681.6	4350.2	4328.4	4494.9	4813.8	5669.6	4958.5
35°	5601.1	5585.6	5566.9	5378.6	5067.4	4655.1	4479.3	4602.2	4890.1	5868.7	5059.7
37.5°	6058.5	6041.4	6072.5	5867.2	5526.4	5055.0	4734.5	4817.0	5045.7	6158.1	5247.9
40°	6872.2	6822.5	6735.3	6419.5	6061.6	5545.1	5103.2	5115.7	5311.7	6545.5	5549.8
42.5°	8208.7	8048.5	7617.5	7037.2	6626.4	6114.5	5584.0	5524.9	5678.9	7057.4	5988.5
45°	9548.3	9367.9	8639.7	7710.9	7211.4	6726.0	6178.3	6036.8	6136.3	7653.3	6553.3
47.5°	10413.4	10324.7	9503.2	8384.5	7824.4	7391.9	6858.2	6624.9	6696.4	8328.5	7250.3
50°	10667.0	10590.8	9945.1	8912.0	8403.2	8196.3	7700.0	7390.4	7402.8	9117.4	8085.8
52.5°	10477.2	10446.1	10018.2	9238.7	8935.3	9044.2	8865.3	8434.3	8331.6	9982.4	8991.3
55°	10223.6	10234.5	10069.5	9567.0	9476.8	9834.6	10390.1	10043.1	9607.5	10883.3	9934.2
57.5°	9425.4	9433.2	9865.7	10192.5	10509.9	10942.4	11577.2	11430.9	10923.7	11855.7	10990.6
60°	7589.5	7650.2	8613.3	10063.3	11690.8	13125.3	13280.9	13028.8	12324.0	12975.9	12364.4
62.5°	5422.2	5476.6	6592.2	8736.2	11552.3	15596.0	16426.8	15424.8	14223.7	14651.6	14296.8
65°	2848.8	2839.5	3703.0	6036.8	9730.4	16168.5	21383.8	19678.6	17424.1	16955.8	16163.9
67.5°	1591.6	1643.0	1977.5	3044.8	6341.7	14229.9	24550.0	25052.5	21873.9	18783.9	16083.0
69°	1471.8	1489.0	1713.0	2354.0	4133.9	11740.5	24277.7	26675.3	23750.3	18791.7	15046.8
70°	1429.8	1448.5	1652.3	2168.9	3472.7	9619.9	23286.6	26485.5	24206.1	18374.7	14103.9
72.5°	1282.0	1306.9	1504.5	1949.5	2926.6	4958.5	18757.5	22668.9	21926.8	16059.6	10936.2
75°	1093.8	1135.8	1434.5	1935.5	2772.5	3152.2	12509.1	16888.9	16319.5	11485.4	6204.8
77.5°	452.8	457.4	627.0	1417.4	2909.5	3016.8	6722.9	10698.1	9470.5	5036.3	1868.6
80°	315.8	309.6	312.7	413.9	2347.8	3037.0	3449.3	5440.9	4228.8	1328.7	874.4
82.5°	266.1	262.9	275.4	259.8	795.0	3446.2	2884.6	2836.3	1991.5	715.7	417.0
85°	175.8	171.1	225.6	236.5	378.1	2736.8	3102.4	2229.6	1484.3	382.7	177.4
87.5°	85.6	87.1	129.1	160.3	200.7	866.6	2971.7	1762.8	1146.7	166.5	71.6
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°	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8	6190.8
2.5°	6091.2	6044.5	6002.5	5949.6	5909.2	5874.9	5828.3	5826.7	5818.9	5829.8	5832.9
5°	5955.8	5878.1	5759.8	5627.6	5534.2	5411.3	5291.5	5251.0	5205.9	5201.3	5215.3
7.5°	5752.0	5630.7	5428.4	5226.1	5023.9	4817.0	4620.9	4521.3	4424.9	4395.3	4409.3
10°	5524.9	5370.8	5061.2	4731.4	4446.7	4138.6	3839.9	3646.9	3471.1	3396.5	3415.1
12.5°	5347.5	5151.5	4715.8	4288.0	3861.7	3419.8	3026.2	2645.0	2357.1	2228.0	2235.8
15°	5195.0	4944.5	4392.2	3822.8	3289.1	2683.9	2137.8	1695.9	1443.8	1350.5	1347.4
17.5°	5030.1	4726.7	4054.6	3390.2	2697.9	1949.5	1431.4	1170.0	1070.4	1039.3	1039.3
20°	4854.3	4502.7	3701.4	2918.8	2075.5	1361.4	1076.7	975.5	938.2	928.9	927.3
22.5°	4690.9	4283.3	3346.7	2416.3	1501.4	1033.1	916.4	877.5	871.3	879.1	879.1
25°	4561.8	4090.4	2987.3	1887.3	1092.2	865.1	815.3	810.6	833.9	861.9	866.6
27.5°	4465.3	3917.7	2632.5	1378.5	858.8	753.0	735.9	756.1	810.6	866.6	877.5
30°	4398.4	3769.9	2207.8	991.1	715.7	659.7	667.5	703.3	785.7	871.3	894.6
32.5°	4368.9	3650.1	1779.9	760.8	611.5	580.3	600.6	647.2	732.8	818.4	846.4
35°	4396.9	3562.9	1384.7	631.7	535.2	511.9	535.2	583.4	639.5	681.5	698.6
37.5°	4498.0	3531.8	1042.4	560.1	485.4	462.1	480.8	513.4	538.3	553.9	561.7
40°	4711.2	3564.5	816.8	522.8	457.4	431.0	435.6	451.2	468.3	480.8	482.3
42.5°	5050.3	3671.8	726.6	508.8	440.3	406.1	398.3	409.2	427.9	445.0	448.1
45°	5501.5	3850.8	717.3	513.4	432.5	385.9	370.3	381.2	406.1	434.1	438.8
47.5°	6085.0	4133.9	760.8	538.3	437.2	375.0	351.6	362.5	395.2	432.5	438.8
50°	6775.8	4526.0	841.7	575.7	459.0	375.0	343.8	353.2	387.4	429.4	435.6
52.5°	7589.5	5072.1	925.7	613.0	490.1	389.0	347.0	345.4	376.5	415.4	423.2
55°	8487.2	5750.5	1006.6	645.7	507.2	407.6	354.7	336.1	361.0	392.1	398.3
57.5°	9543.7	6679.3	1148.2	676.8	516.5	421.6	364.1	326.7	340.7	362.5	367.2
60°	10976.6	8043.8	1423.6	729.7	533.7	427.9	365.6	317.4	315.8	331.4	333.0
62.5°	12845.2	9641.7	1686.6	791.9	567.9	429.4	359.4	311.2	295.6	300.3	300.3
65°	14173.9	10229.8	1610.3	844.8	599.0	427.9	353.2	306.5	280.1	272.3	272.3
67.5°	13417.8	9036.5	1367.6	858.8	602.1	410.7	339.2	295.6	266.1	247.4	247.4
69°	12306.9	7920.9	1255.6	833.9	577.2	390.5	323.6	284.7	256.7	234.9	234.9
70°	11401.4	7076.1	1187.1	804.4	547.7	373.4	309.6	273.8	247.4	228.7	227.2
72.5°	8512.1	4722.0	1014.4	693.9	449.6	315.8	270.7	244.3	222.5	210.0	210.0
75°	4491.8	2366.5	830.8	566.3	347.0	252.0	222.5	205.4	192.9	191.4	189.8
77.5°	1471.8	1070.4	597.5	426.3	255.2	196.0	177.4	166.5	164.9	171.1	171.1
80°	795.0	639.5	384.3	287.8	177.4	146.3	136.9	135.4	140.0	149.4	149.4
82.5°	385.9	315.8	228.7	177.4	121.4	107.4	107.4	108.9	115.1	126.0	126.0
85°	166.5	149.4	132.2	99.6	74.7	66.9	76.2	84.0	88.7	96.5	99.6
87.5°	79.3	70.0	60.7	38.9	32.7	34.2	40.5	49.8	59.1	65.3	66.9
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)