

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: P196672

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196672  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
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-SL4-7030  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22509.6 lumens  
Efficiency: N/A  
Efficacy: 100.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G4

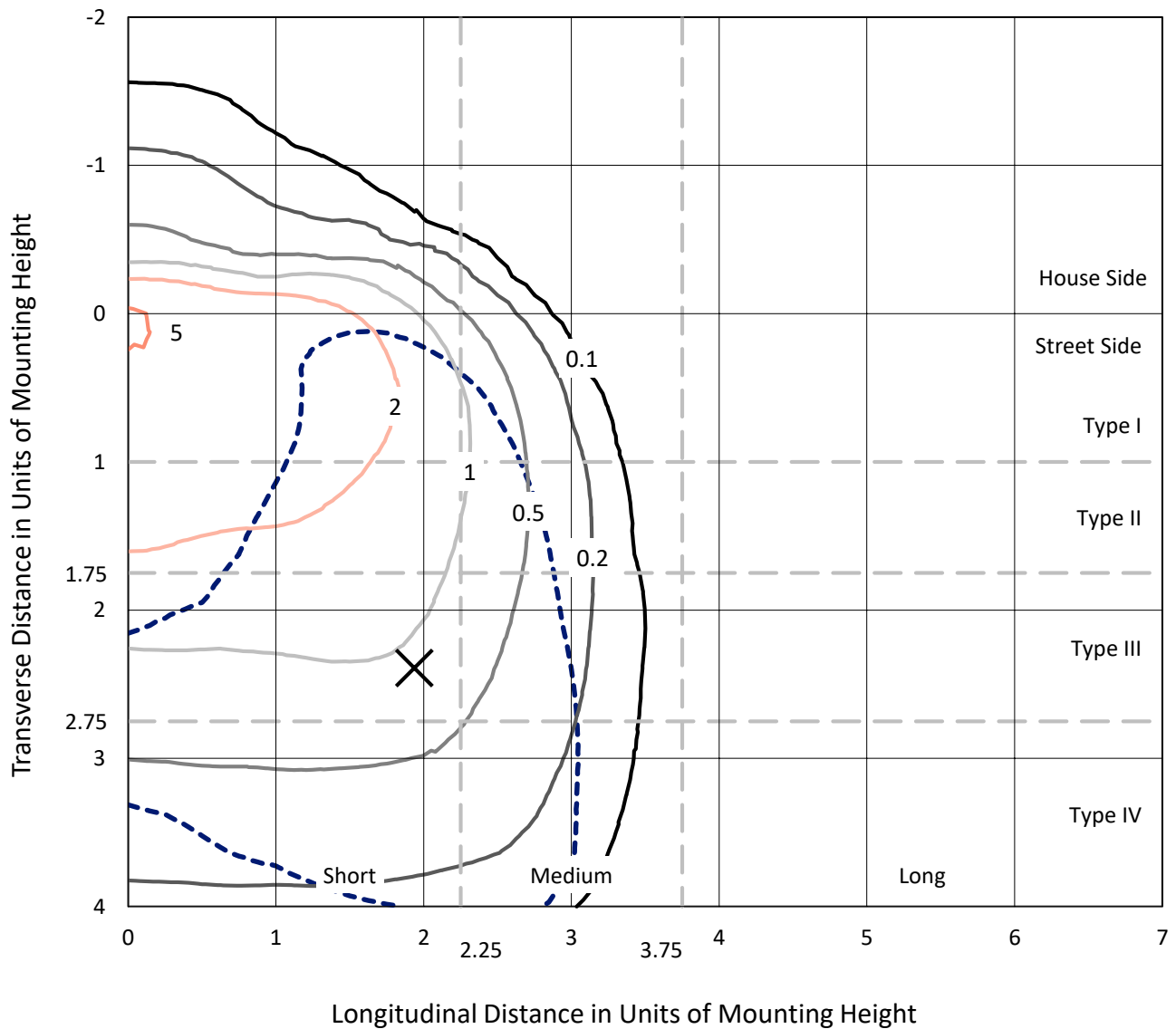
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

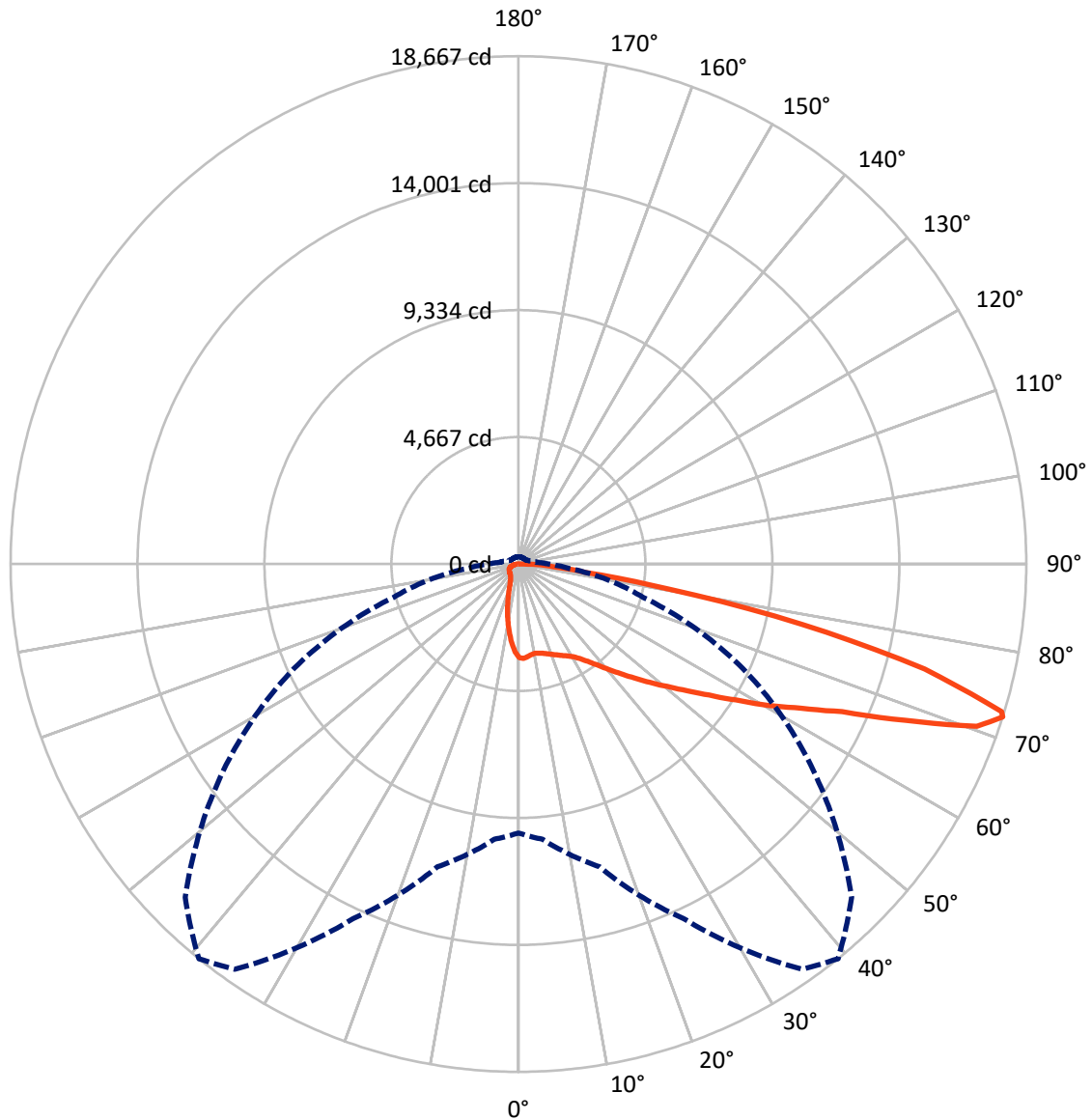
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2581.0	0.0	2581.0
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	19928.6	0.0	19928.6
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	22509.6	0.0	22509.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.4	1.3
10°-20°	742.3	3.3
20°-30°	1156.8	5.1
30°-40°	1781.1	7.9
40°-50°	2903.7	12.9
50°-60°	4512.0	20.0
60°-70°	6039.1	26.8
70°-80°	4343.0	19.3
80°-90°	736.2	3.3
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°	22509.6	100.0
0°-180°	22509.6	100.0

**Coefficient of Utilization**



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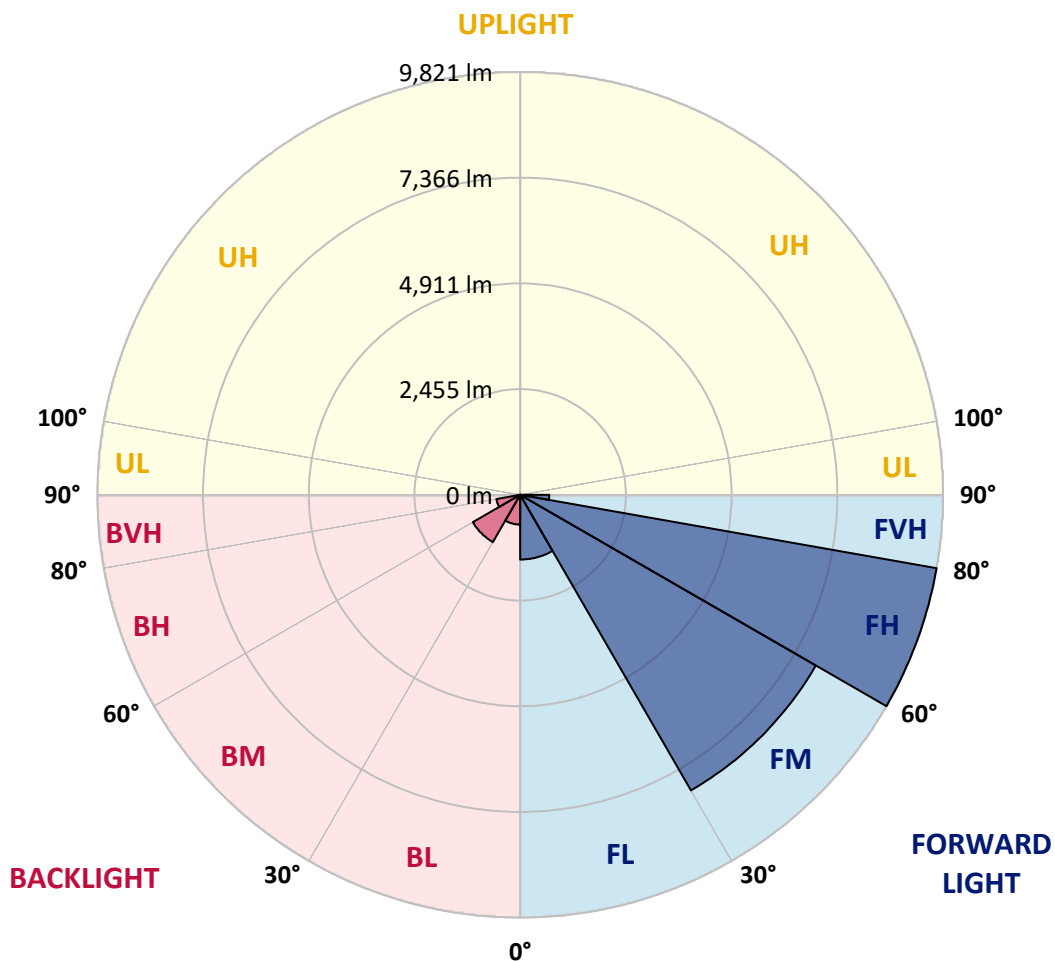
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1503.6	6.7			
FM	(30°-60°)	7928.3	35.2			
FH	(60°-80°)	9821.3	43.6			G4/12000
FVH	(80°-90°)	675.4	3.0			G4/750
BL	(0°-30°)	690.9	3.1	B2/1000		
BM	(30°-60°)	1268.4	5.6	B2/2500		
BH	(60°-80°)	560.8	2.5	B2/1000		G2/1000
BVH	(80°-90°)	60.9	0.3			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7
2.5°	3511.7	3513.1	3508.7	3494.9	3482.9	3476.9	3466.4	3448.2	3423.9	3407.4	3393.8
5°	3478.4	3482.9	3479.9	3457.3	3436.1	3423.9	3407.4	3381.7	3350.0	3336.3	3304.6
7.5°	3452.7	3455.8	3446.7	3421.0	3380.2	3365.0	3334.9	3301.6	3272.9	3253.3	3215.5
10°	3434.6	3437.7	3430.0	3404.4	3359.0	3340.9	3304.6	3268.4	3230.6	3206.4	3164.1
12.5°	3408.9	3415.0	3415.0	3402.9	3372.7	3360.6	3324.3	3285.0	3250.3	3224.6	3171.7
15°	3404.4	3411.9	3425.5	3423.9	3415.0	3405.9	3377.2	3337.9	3307.8	3277.4	3212.4
17.5°	3442.1	3458.8	3486.0	3494.9	3488.9	3469.3	3436.1	3399.8	3366.6	3337.9	3257.8
20°	3537.4	3546.4	3587.2	3605.3	3575.1	3546.4	3502.7	3455.8	3425.5	3402.9	3300.0
22.5°	3681.0	3693.0	3726.2	3727.7	3664.2	3629.5	3573.7	3516.2	3487.4	3478.4	3357.5
25°	3910.6	3907.5	3916.6	3878.8	3764.0	3723.2	3655.2	3588.7	3569.1	3587.2	3442.1
27.5°	4185.6	4178.1	4149.3	4051.2	3877.3	3824.4	3742.9	3683.9	3683.9	3726.2	3557.1
30°	4502.9	4495.4	4401.6	4237.0	4011.8	3951.4	3865.3	3803.4	3835.0	3916.6	3712.6
32.5°	4838.3	4811.1	4679.7	4459.1	4203.8	4137.2	4054.2	3990.7	4051.2	4190.1	3936.3
35°	5154.2	5139.0	4977.5	4715.9	4451.6	4395.6	4338.2	4259.6	4356.3	4572.4	4252.1
37.5°	5480.6	5468.4	5270.5	4992.5	4753.8	4715.9	4667.5	4613.3	4768.8	5052.9	4679.7
40°	5844.8	5820.6	5571.2	5293.2	5105.8	5087.6	5062.0	5046.9	5297.8	5720.9	5220.6
42.5°	6257.2	6210.4	5888.5	5624.1	5489.6	5504.7	5491.2	5551.6	5935.4	6491.4	5864.4
45°	6728.6	6635.0	6204.3	5976.2	5914.2	5974.7	6003.4	6157.6	6689.4	7381.4	6583.6
47.5°	7169.9	7049.0	6550.3	6358.5	6393.2	6497.4	6579.0	6851.1	7516.0	8260.9	7317.9
50°	7576.4	7440.3	6920.6	6754.4	6923.5	7071.7	7240.9	7624.7	8395.4	9166.0	7991.9
52.5°	7877.0	7778.8	7290.8	7186.5	7532.6	7729.0	7999.4	8484.5	9283.9	10028.8	8593.2
55°	8109.8	8056.9	7651.9	7682.1	8221.5	8502.7	8830.6	9388.1	10223.7	10802.5	9076.8
57.5°	8378.8	8339.4	8064.4	8280.5	9076.8	9430.3	9817.3	10436.8	11118.2	11483.9	9456.1
60°	8662.8	8662.8	8523.8	9001.4	10146.7	10551.6	10937.0	11418.9	12009.8	12097.4	9610.2
62.5°	8877.4	8933.2	8983.2	9768.9	11162.0	11665.3	12088.3	12550.7	12933.0	12399.7	9247.6
65°	9188.6	9308.1	9589.0	10655.8	12419.3	13078.2	13649.2	14037.5	13681.0	12159.4	8064.4
67.5°	9723.5	9900.3	10498.7	11976.6	14344.3	15331.0	15885.5	15214.7	13534.4	10646.8	6177.2
70°	10205.6	10454.9	11477.9	13652.3	16846.5	17871.1	17615.8	14941.2	11787.7	7804.5	3800.2
72°	9885.2	10157.2	11523.2	14382.2	18183.9	18667.4	17321.1	13241.2	9108.5	4762.8	1873.7
72.5°	9675.2	9957.8	11376.6	14364.0	18220.2	18566.2	16911.5	12565.8	8268.4	4167.4	1515.5
75°	8082.6	8324.4	9782.5	12730.6	16056.3	15421.7	13197.4	8132.3	3800.2	1346.3	779.7
77.5°	5278.1	5462.4	6745.3	8820.0	11246.7	10636.2	8032.7	3807.8	1425.0	817.5	586.2
80°	2651.8	2783.4	3609.9	4637.4	6069.9	5584.8	3708.0	1842.0	953.5	590.8	460.8
82.5°	1845.0	1965.9	2485.6	2367.7	2537.0	2455.5	1743.8	1536.7	713.3	373.2	241.8
85°	1547.3	1672.8	2056.5	1687.8	1381.1	1258.6	1249.6	1452.2	471.5	184.3	204.0
87.5°	1349.4	1539.8	1696.9	1233.0	947.4	835.7	920.2	1331.3	149.5	101.3	62.0
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°	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7	3437.7
2.5°	3371.0	3366.6	3344.0	3309.1	3283.5	3266.9	3235.1	3233.6	3236.7	3209.5	3220.0
5°	3275.9	3257.8	3198.9	3118.8	3053.8	2991.8	2923.9	2901.2	2881.6	2840.7	2845.3
7.5°	3176.1	3144.5	3041.8	2910.2	2784.8	2670.0	2556.6	2500.7	2458.5	2405.6	2405.6
10°	3117.2	3067.5	2910.2	2718.4	2518.9	2351.2	2181.9	2080.8	2006.6	1938.7	1934.1
12.5°	3114.2	3038.7	2819.7	2555.1	2281.7	2046.0	1814.8	1659.1	1548.9	1468.8	1461.2
15°	3138.5	3032.7	2744.0	2402.5	2058.0	1751.3	1465.7	1267.7	1127.2	1038.1	1029.0
17.5°	3159.6	3025.1	2662.4	2242.4	1840.5	1467.3	1150.0	944.4	811.5	738.9	731.4
20°	3179.2	3008.5	2558.2	2073.2	1600.2	1201.3	899.1	732.8	645.1	604.4	599.9
22.5°	3208.0	2993.3	2449.4	1882.7	1364.4	977.7	741.9	622.6	575.7	556.0	553.1
25°	3254.9	2994.9	2343.6	1687.8	1148.5	814.4	642.2	568.1	542.5	528.9	528.9
27.5°	3322.8	3013.1	2239.4	1489.9	965.6	702.6	583.2	539.4	522.8	512.2	509.2
30°	3422.5	3046.2	2129.0	1302.5	820.5	625.6	548.5	521.2	507.7	498.7	497.1
32.5°	3567.6	3105.1	2012.7	1131.8	710.1	571.2	522.8	506.2	495.6	488.1	486.5
35°	3783.6	3209.5	1899.4	986.7	631.6	531.9	501.7	488.1	482.1	479.0	477.5
37.5°	4100.9	3377.2	1792.1	873.4	580.2	506.2	480.5	473.0	470.0	470.0	470.0
40°	4499.9	3597.8	1695.3	793.3	551.5	486.5	465.5	459.3	459.3	460.8	460.8
42.5°	4985.0	3874.4	1612.2	738.9	535.0	473.0	454.8	451.8	450.2	450.2	451.8
45°	5548.5	4200.7	1560.9	696.6	522.8	465.5	447.3	445.8	439.7	436.7	436.7
47.5°	6115.1	4549.8	1557.9	672.4	507.7	456.3	439.7	439.7	427.6	421.6	423.1
50°	6644.0	4862.6	1591.2	666.4	498.7	442.7	432.1	433.6	417.1	409.5	408.0
52.5°	7070.1	5101.4	1631.9	673.9	498.7	430.7	418.6	426.1	408.0	398.9	397.3
55°	7399.6	5267.5	1647.1	690.5	504.7	420.1	406.5	418.6	405.0	392.9	392.9
57.5°	7635.2	5320.4	1582.1	698.0	513.7	418.6	394.4	417.1	409.5	394.4	394.4
60°	7549.2	5013.7	1340.3	669.4	512.2	415.5	385.3	420.1	424.6	408.0	408.0
62.5°	6876.8	4194.7	1075.8	604.4	486.5	405.0	374.8	417.1	435.2	429.2	426.1
65°	5598.5	3076.5	834.0	527.4	442.7	382.3	352.1	389.8	411.1	417.1	418.6
67.5°	3945.4	1947.8	648.2	448.7	388.3	349.1	326.3	344.5	352.1	355.1	361.1
70°	2157.8	1054.7	515.2	377.7	332.4	315.8	299.2	300.7	297.6	294.7	297.6
72°	1083.5	689.0	435.2	327.9	294.7	284.1	276.5	271.9	271.9	267.4	269.0
72.5°	932.3	640.7	420.1	315.8	285.6	276.5	270.5	265.9	264.4	261.4	262.9
75°	621.0	507.7	350.6	264.4	243.3	237.2	240.3	235.7	237.2	234.3	235.7
77.5°	501.7	436.7	297.6	223.7	208.5	199.5	205.5	207.0	210.0	207.0	205.5
80°	420.1	371.7	249.3	184.3	173.7	166.2	169.3	179.8	181.4	172.3	170.8
82.5°	271.9	299.2	196.4	143.5	133.0	129.9	137.5	148.0	151.1	139.0	136.0
85°	228.2	240.3	142.0	98.3	87.6	84.5	99.8	110.4	117.9	105.8	102.7
87.5°	63.5	117.9	69.5	46.9	39.4	39.4	48.4	57.5	68.0	69.5	69.5
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)