

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: P270601

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270601
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-05-D-UNV-SL4-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 24922.8 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

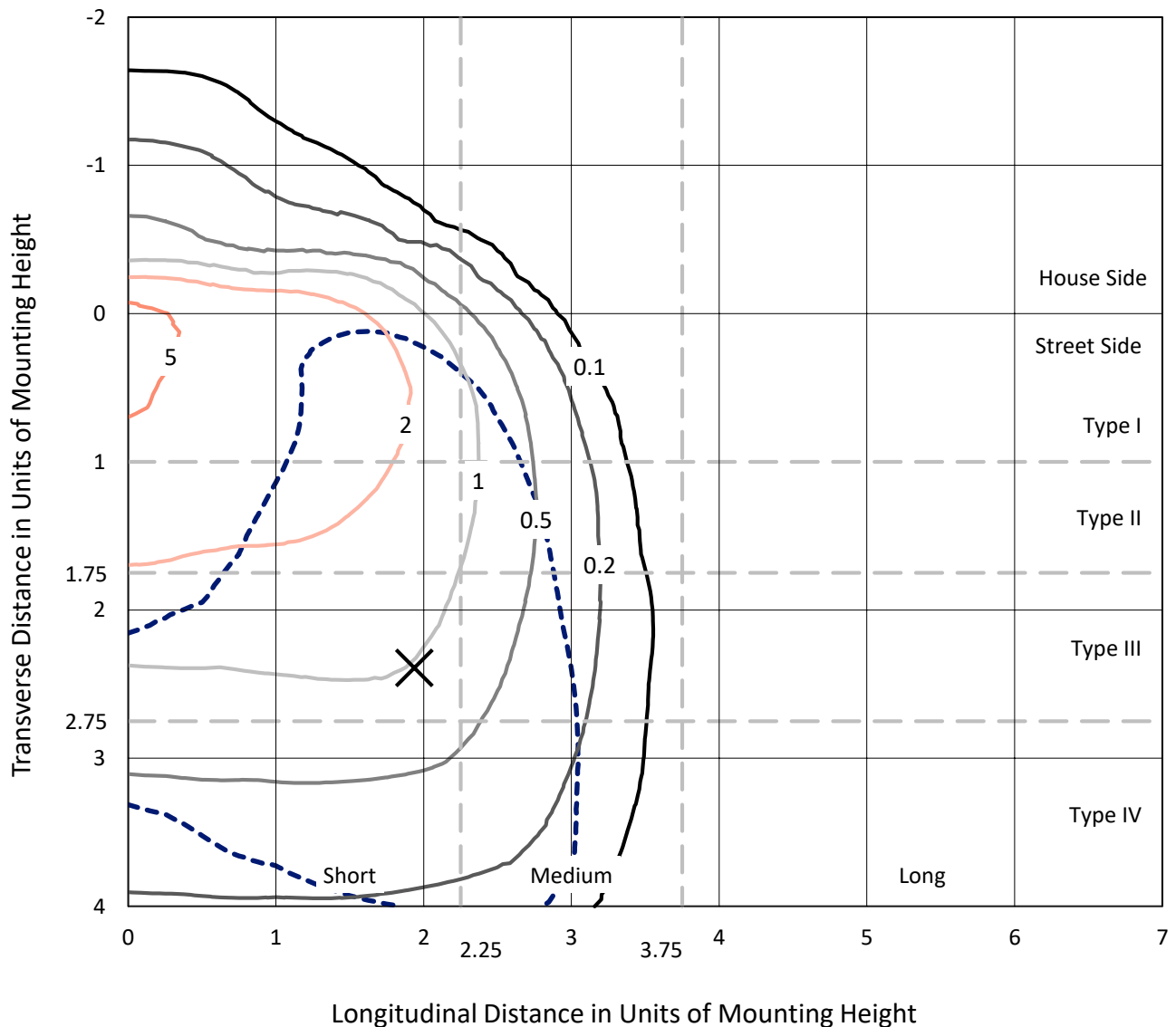
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

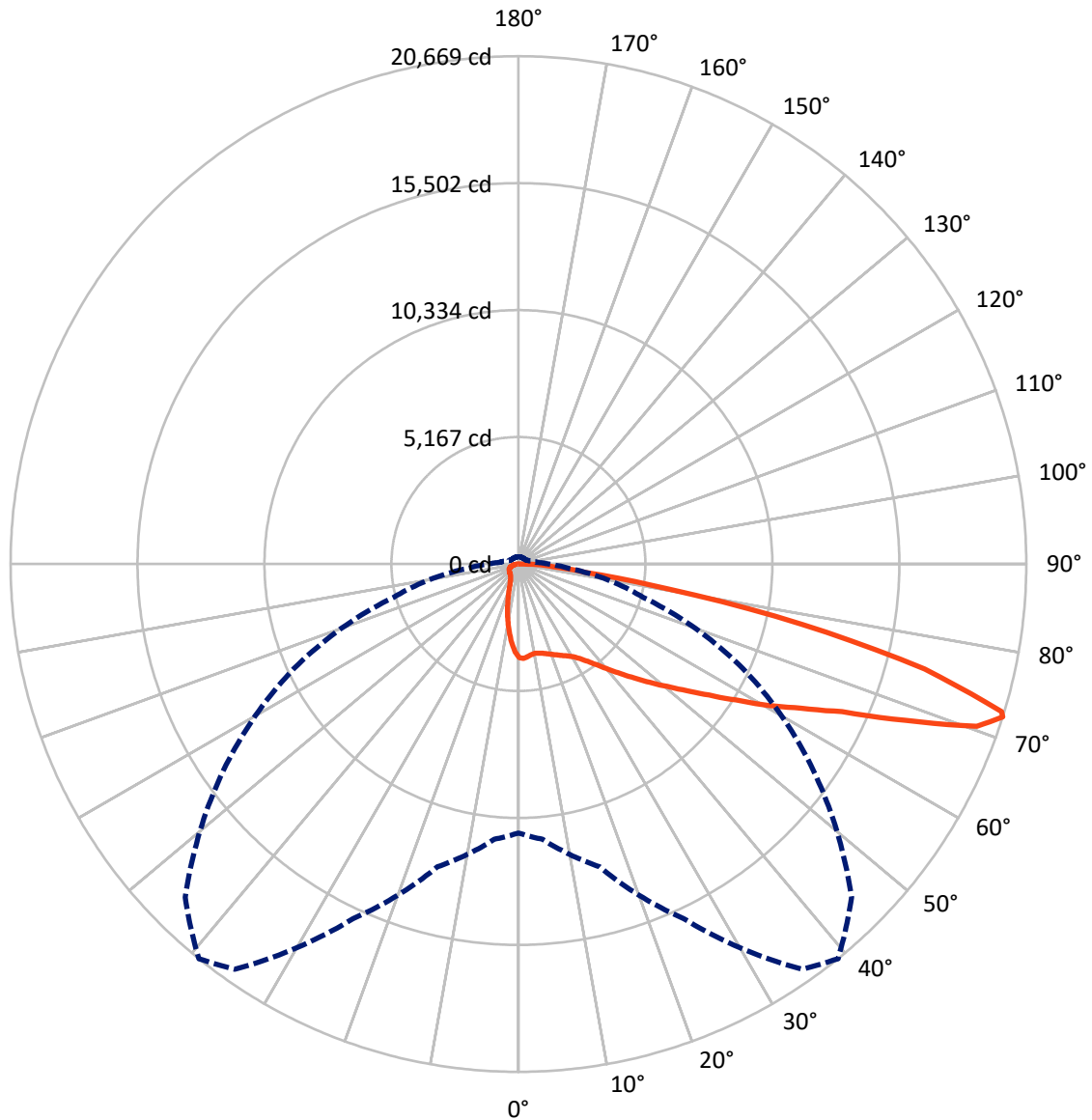
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 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
House Side	Lumens	2857.7	0.0	2857.7
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	22065.0	0.0	22065.0
	% Fixture	88.5	0.0	88.5
Total	Lumens	24922.8	0.0	24922.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.1	1.3
10°-20°	821.9	3.3
20°-30°	1280.8	5.1
30°-40°	1972.1	7.9
40°-50°	3214.9	12.9
50°-60°	4995.7	20.0
60°-70°	6686.5	26.8
70°-80°	4808.6	19.3
80°-90°	815.2	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°	24922.8	100.0
0°-180°	24922.8	100.0



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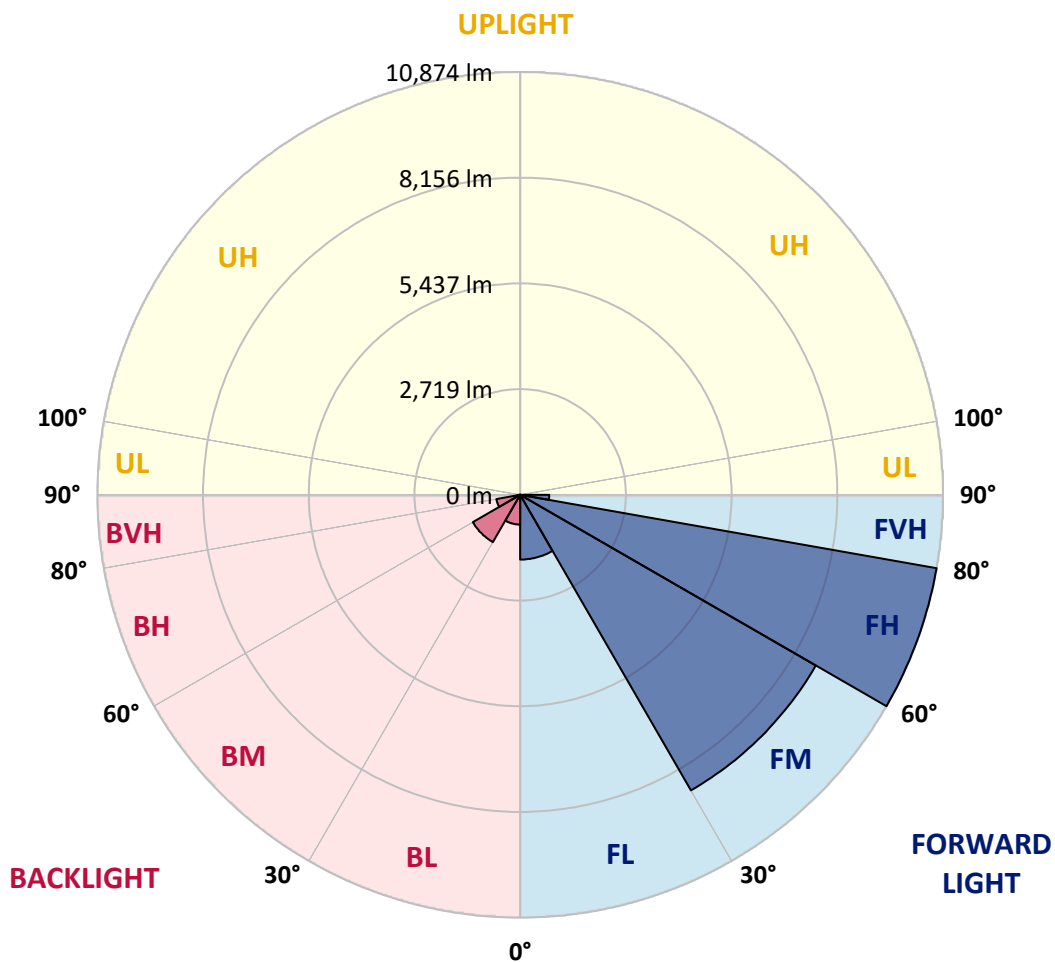
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1664.8	6.7			
FM	(30°-60°)	8778.3	35.2			
FH	(60°-80°)	10874.2	43.6			G4/12000
FVH	(80°-90°)	747.8	3.0			G4/750
BL	(0°-30°)	765.0	3.1	B2/1000		
BM	(30°-60°)	1404.4	5.6	B2/2500		
BH	(60°-80°)	620.9	2.5	B2/1000		G2/1000
BVH	(80°-90°)	67.4	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°	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2
2.5°	3888.1	3889.8	3884.8	3869.7	3856.3	3849.6	3838.0	3817.8	3791.0	3772.7	3757.6
5°	3851.4	3856.3	3853.0	3827.9	3804.5	3791.0	3772.7	3744.2	3709.1	3694.1	3658.9
7.5°	3822.8	3826.2	3816.2	3787.8	3742.6	3725.8	3692.5	3655.7	3623.9	3602.1	3560.3
10°	3802.9	3806.2	3797.8	3769.4	3719.2	3699.1	3658.9	3618.8	3577.0	3550.2	3503.3
12.5°	3774.4	3781.1	3781.1	3767.8	3734.3	3720.8	3680.6	3637.1	3598.7	3570.3	3511.7
15°	3769.4	3777.7	3792.7	3791.0	3781.1	3771.1	3739.3	3695.7	3662.3	3628.9	3556.8
17.5°	3811.1	3829.6	3859.7	3869.7	3863.0	3841.3	3804.5	3764.3	3727.5	3695.7	3607.1
20°	3916.6	3926.6	3971.8	3991.9	3958.4	3926.6	3878.2	3826.2	3792.7	3767.8	3653.9
22.5°	4075.5	4088.8	4125.6	4127.4	4057.1	4018.7	3956.8	3893.2	3861.4	3851.4	3717.5
25°	4329.8	4326.4	4336.5	4294.6	4167.5	4122.3	4047.0	3973.5	3951.7	3971.8	3811.1
27.5°	4634.3	4625.9	4594.1	4485.3	4293.0	4234.4	4144.2	4078.8	4078.8	4125.6	3938.3
30°	4985.7	4977.2	4873.6	4691.2	4441.8	4374.9	4279.6	4211.1	4246.2	4336.5	4110.6
32.5°	5357.0	5326.9	5181.3	4937.2	4654.4	4580.7	4488.7	4418.6	4485.3	4639.3	4358.2
35°	5706.8	5690.0	5511.0	5221.6	4928.8	4866.8	4803.2	4716.3	4823.4	5062.6	4707.8
37.5°	6068.1	6054.8	5835.5	5527.7	5263.3	5221.6	5167.9	5107.8	5280.1	5594.6	5181.3
40°	6471.3	6444.5	6168.5	5860.6	5653.2	5633.1	5604.6	5587.9	5865.7	6334.0	5780.4
42.5°	6928.1	6876.2	6519.8	6227.1	6078.1	6094.9	6079.8	6146.7	6571.7	7187.3	6493.0
45°	7450.1	7346.2	6869.5	6616.8	6548.3	6615.2	6647.0	6817.5	7406.5	8172.8	7289.3
47.5°	7938.5	7804.7	7252.6	7040.1	7078.6	7194.0	7284.4	7585.6	8321.7	9146.5	8102.5
50°	8388.6	8238.0	7662.5	7478.5	7665.9	7829.7	8017.2	8442.1	9295.4	10148.6	8848.7
52.5°	8721.6	8612.8	8072.3	7956.9	8340.0	8557.6	8857.1	9394.0	10279.1	11103.9	9514.6
55°	8979.2	8920.6	8472.3	8505.7	9103.0	9414.1	9777.2	10394.6	11319.7	11960.6	10049.9
57.5°	9276.9	9233.5	8929.1	9168.2	10049.9	10441.4	10869.8	11555.6	12310.3	12715.1	10469.8
60°	9591.6	9591.6	9437.7	9966.2	11234.5	11682.7	12109.4	12643.1	13297.3	13394.3	10640.6
62.5°	9829.1	9891.0	9946.3	10816.1	12358.7	12915.8	13384.2	13896.2	14319.5	13728.9	10239.1
65°	10173.8	10305.9	10617.1	11798.2	13750.6	14480.0	15112.5	15542.5	15147.7	13462.9	8929.1
67.5°	10765.9	10961.7	11624.2	13260.5	15882.2	16974.6	17588.6	16845.7	14985.3	11788.2	6839.3
70°	11299.7	11575.6	12708.3	15115.9	18652.6	19787.0	19504.2	16542.9	13051.4	8641.2	4207.8
72°	10944.9	11246.2	12758.5	15924.0	20133.4	20668.7	19177.9	14660.8	10085.0	5273.4	2074.5
72.5°	10712.5	11025.3	12596.3	15903.9	20173.4	20556.5	18724.6	13912.9	9154.8	4614.2	1678.0
75°	8949.0	9216.7	10831.3	14095.3	17777.6	17075.1	14612.3	9004.3	4207.8	1490.6	863.4
77.5°	5844.0	6048.0	7468.4	9765.6	12452.3	11776.5	8893.8	4216.0	1577.7	905.1	649.1
80°	2936.2	3081.7	3996.9	5134.5	6720.6	6183.6	4105.7	2039.4	1055.7	654.1	510.2
82.5°	2042.7	2176.7	2752.1	2621.7	2809.0	2718.7	1930.6	1701.5	789.7	413.2	267.6
85°	1713.2	1852.0	2277.1	1868.7	1529.2	1393.6	1383.6	1607.7	521.9	204.2	225.8
87.5°	1494.1	1704.9	1878.8	1365.2	1049.0	925.2	1018.9	1473.9	165.6	112.1	68.6
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°	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2	3806.2
2.5°	3732.5	3727.5	3702.5	3663.9	3635.5	3617.0	3582.0	3580.3	3583.7	3553.5	3565.3
5°	3627.1	3607.1	3541.7	3453.2	3381.2	3312.6	3237.3	3212.2	3190.5	3145.2	3150.4
7.5°	3516.8	3481.7	3367.8	3222.3	3083.4	2956.2	2830.7	2768.8	2722.0	2663.5	2663.5
10°	3451.5	3396.2	3222.3	3009.9	2789.0	2603.3	2415.8	2303.8	2221.8	2146.5	2141.5
12.5°	3448.1	3364.5	3121.9	2829.1	2526.3	2265.3	2009.2	1837.0	1714.9	1626.2	1617.8
15°	3475.0	3357.8	3038.2	2660.2	2278.7	1939.0	1622.9	1403.7	1248.0	1149.4	1139.3
17.5°	3498.3	3349.4	2947.9	2482.7	2037.7	1624.6	1273.2	1045.6	898.5	818.0	809.7
20°	3520.1	3331.1	2832.4	2295.3	1771.7	1330.1	995.4	811.3	714.4	669.1	664.1
22.5°	3551.9	3314.2	2712.1	2084.5	1510.8	1082.5	821.5	689.3	637.4	615.7	612.4
25°	3603.7	3316.0	2594.8	1868.7	1271.6	901.8	711.1	629.1	600.6	585.5	585.5
27.5°	3679.0	3336.0	2479.4	1649.6	1069.1	777.9	645.8	597.3	578.9	567.2	563.9
30°	3789.4	3372.9	2357.3	1442.1	908.5	692.7	607.3	577.3	562.1	552.1	550.4
32.5°	3950.0	3438.2	2228.4	1253.0	786.3	632.3	578.9	560.5	548.8	540.4	538.8
35°	4189.2	3553.5	2103.0	1092.5	699.3	588.8	555.4	540.4	533.8	530.4	528.7
37.5°	4540.7	3739.3	1984.3	967.0	642.5	560.5	532.1	523.6	520.3	520.3	520.3
40°	4982.3	3983.5	1877.2	878.4	610.7	538.8	515.3	508.6	508.6	510.2	510.2
42.5°	5519.4	4289.6	1785.1	818.0	592.3	523.6	503.6	500.3	498.6	498.6	500.3
45°	6143.4	4651.1	1728.2	771.3	578.9	515.3	495.2	493.6	486.8	483.5	483.5
47.5°	6770.7	5037.5	1724.8	744.4	562.1	505.2	486.8	486.8	473.4	466.8	468.5
50°	7356.3	5383.8	1761.7	737.8	552.1	490.1	478.4	480.1	461.8	453.4	451.7
52.5°	7828.1	5648.2	1806.9	746.2	552.1	476.8	463.4	471.8	451.7	441.6	440.0
55°	8192.8	5832.2	1823.6	764.5	558.7	465.1	450.1	463.4	448.3	435.0	435.0
57.5°	8453.8	5890.7	1751.7	772.9	568.8	463.4	436.7	461.8	453.4	436.7	436.7
60°	8358.5	5551.2	1484.0	741.1	567.2	460.1	426.6	465.1	470.2	451.7	451.7
62.5°	7613.9	4644.3	1191.2	669.1	538.8	448.3	414.8	461.8	481.9	475.2	471.8
65°	6198.6	3406.4	923.5	583.9	490.1	423.3	389.9	431.6	455.1	461.8	463.4
67.5°	4368.3	2156.6	717.7	496.9	430.0	386.5	361.4	381.4	389.9	393.2	399.8
70°	2389.1	1167.7	570.6	418.3	368.0	349.7	331.3	332.9	329.6	326.3	329.6
72°	1199.5	762.9	481.9	363.1	326.3	314.5	306.1	301.1	301.1	296.1	297.8
72.5°	1032.2	709.4	465.1	349.7	316.3	306.1	299.4	294.5	292.8	289.4	291.1
75°	687.7	562.1	388.2	292.8	269.3	262.7	266.0	261.0	262.7	259.3	261.0
77.5°	555.4	483.5	329.6	247.7	230.9	220.9	227.5	229.2	232.5	229.2	227.5
80°	465.1	411.6	276.0	204.2	192.3	184.1	187.3	199.1	200.9	190.7	189.1
82.5°	301.1	331.3	217.5	158.9	147.2	143.9	152.3	164.0	167.4	153.9	150.6
85°	252.7	266.0	157.3	108.8	97.0	93.8	110.4	122.1	130.6	117.0	113.7
87.5°	70.2	130.6	77.0	51.8	43.5	43.5	53.4	63.6	75.3	77.0	77.0
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)