

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: P196984

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196984
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
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-AFL-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20398 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

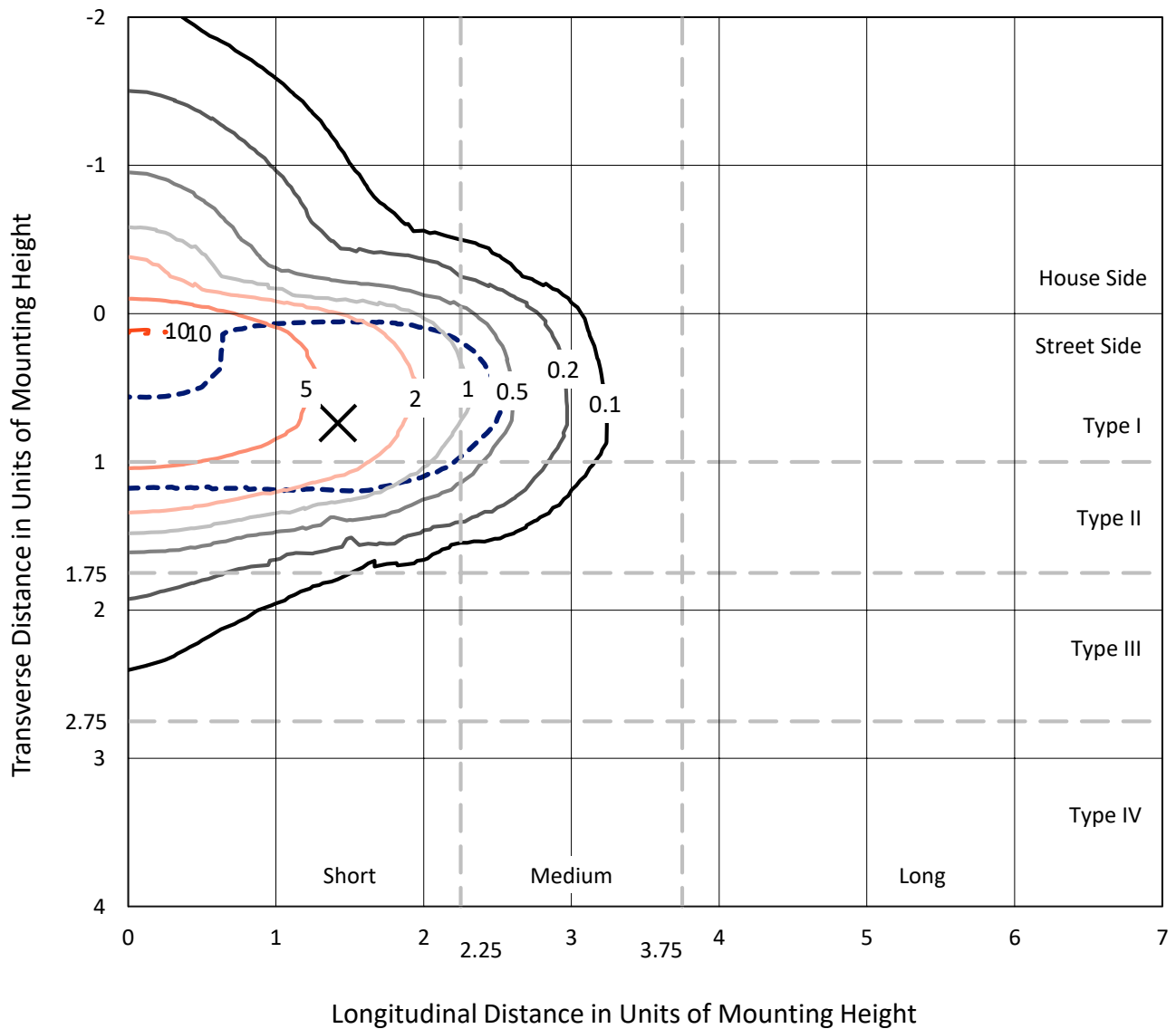
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

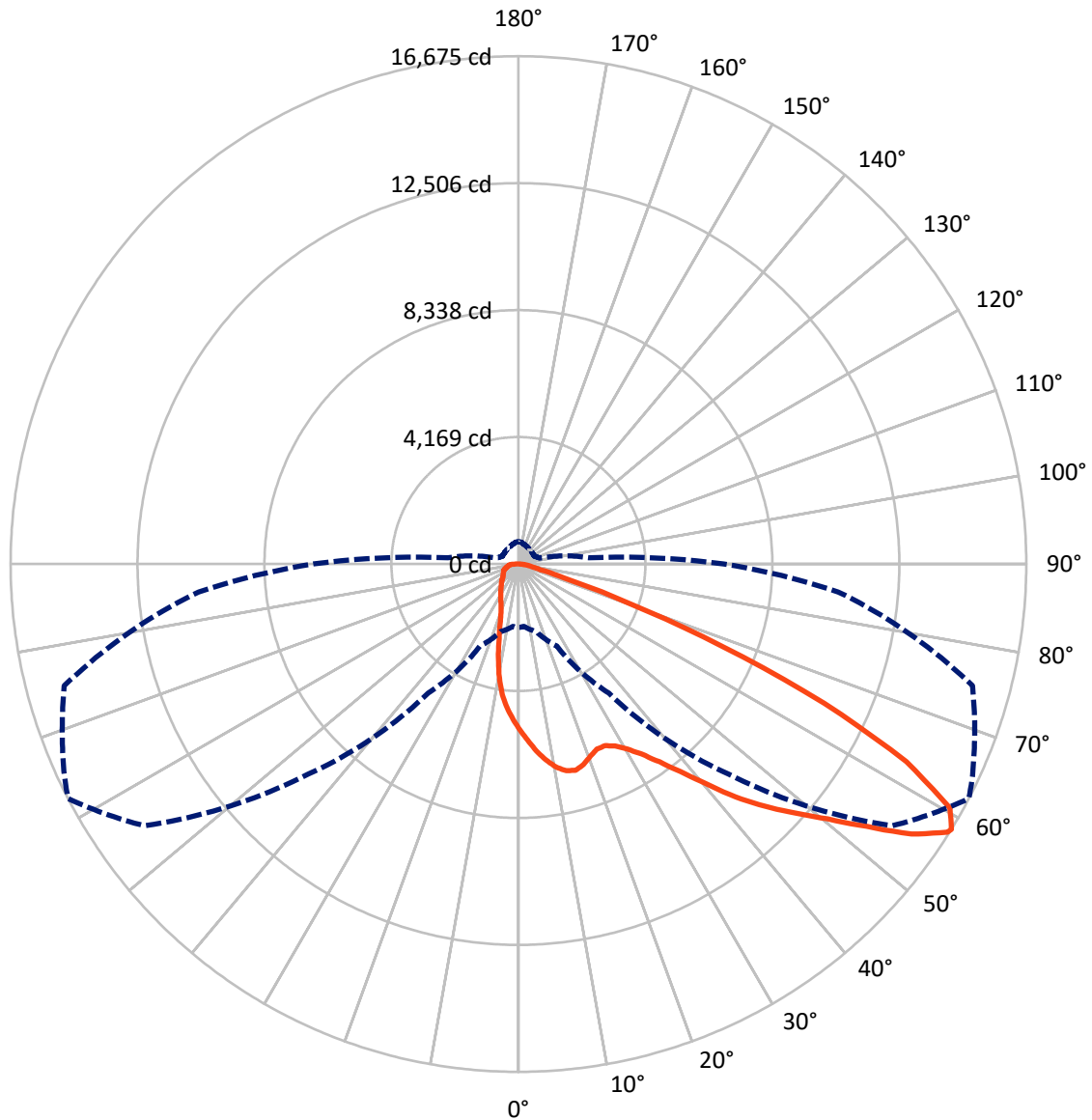
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3131.9	0.0	3131.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	17266.1	0.0	17266.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	20398.0	0.0	20398.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	486.8	2.4
10°-20°	1228.5	6.0
20°-30°	1991.0	9.8
30°-40°	3178.8	15.6
40°-50°	4623.7	22.7
50°-60°	4838.3	23.7
60°-70°	2949.6	14.5
70°-80°	824.9	4.0
80°-90°	276.5	1.4
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°	20398.0	100.0
0°-180°	20398.0	100.0

Coefficient of Utilization



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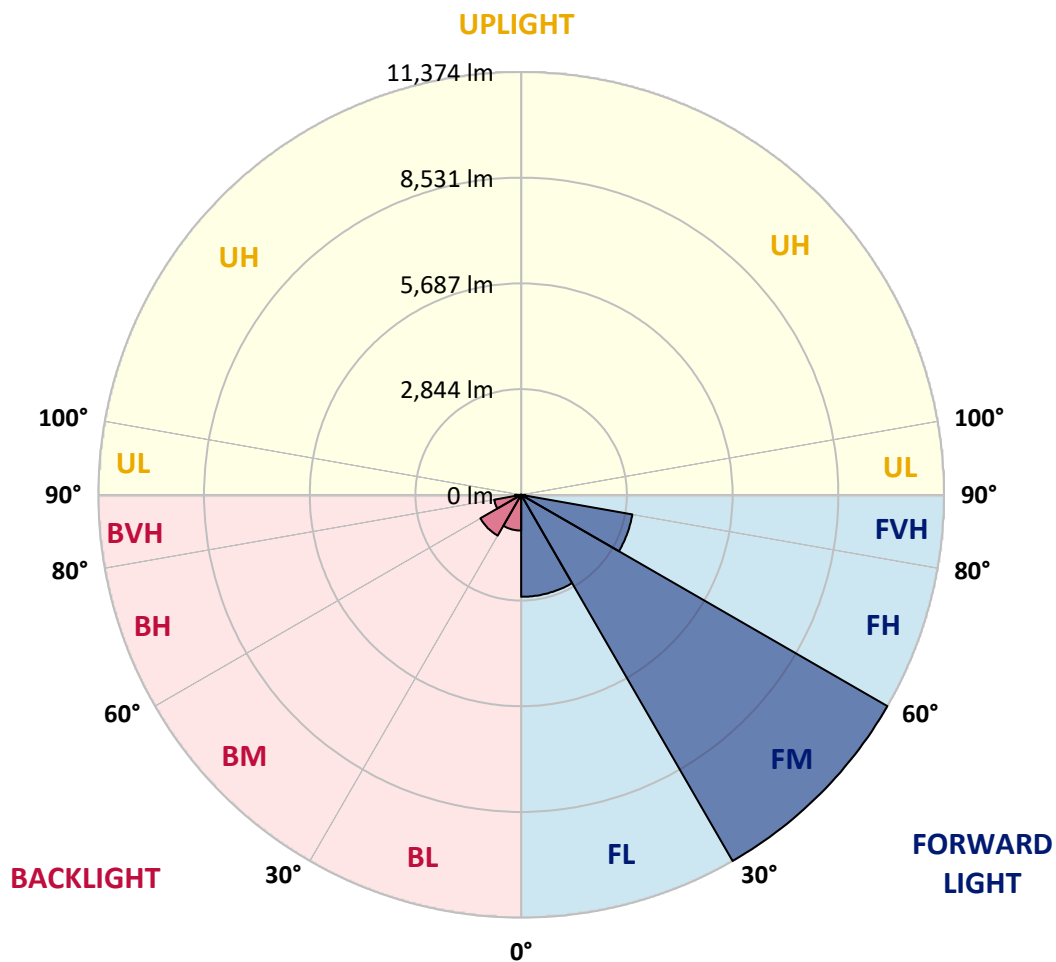
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2743.6	13.5			
FM	(30°-60°)	11374.2	55.8			
FH	(60°-80°)	3037.1	14.9			G2/5000
FVH	(80°-90°)	111.2	0.5			G2/225
BL	(0°-30°)	962.7	4.7	B2/1000		
BM	(30°-60°)	1266.6	6.2	B2/2500		
BH	(60°-80°)	737.3	3.6	B2/1000		G2/1000
BVH	(80°-90°)	165.3	0.8			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1
2.5°	6181.7	6177.9	6125.6	6091.2	6050.4	5956.1	5861.7	5791.6	5755.9	5619.5	5486.9
5°	6692.9	6677.6	6648.3	6611.3	6557.8	6439.2	6290.1	6161.3	6110.3	5868.1	5624.6
7.5°	6422.7	6446.9	6537.4	6639.4	6746.5	6754.1	6648.3	6495.3	6439.2	6115.4	5758.5
10°	5674.3	5664.1	5777.6	5976.5	6329.6	6678.9	6853.6	6778.3	6719.7	6350.0	5892.3
12.5°	5447.4	5444.9	5464.0	5515.0	5736.8	6216.1	6801.3	6964.5	6944.1	6598.6	6035.1
15°	5516.2	5518.8	5517.5	5523.9	5585.1	5813.3	6509.4	7026.9	7090.7	6844.6	6180.4
17.5°	5736.8	5727.9	5699.8	5669.2	5678.2	5759.7	6194.5	6919.9	7111.1	7063.9	6302.8
20°	6077.2	6077.2	6002.0	5916.5	5860.5	5878.3	6063.2	6736.3	7016.7	7250.0	6394.6
22.5°	6504.3	6510.6	6399.7	6244.2	6116.7	6068.3	6138.4	6599.9	6902.0	7422.1	6476.2
25°	7034.6	7033.3	6871.4	6648.3	6446.9	6330.9	6329.6	6606.2	6866.3	7623.6	6561.6
27.5°	7691.1	7631.2	7442.5	7125.1	6840.8	6663.6	6583.3	6766.9	6941.5	7870.9	6676.4
30°	8431.8	8370.6	8123.3	7715.4	7330.4	7071.6	6939.0	7044.8	7171.0	8185.8	6849.7
32.5°	9164.9	9178.9	8888.2	8428.0	7933.4	7568.7	7372.4	7437.4	7525.4	8570.8	7084.3
35°	10238.3	10237.0	9857.1	9282.1	8694.4	8189.6	7941.0	7975.4	8055.7	9113.9	7413.2
37.5°	11038.9	11026.1	10781.4	10272.7	9611.0	9005.5	8646.0	8651.1	8719.9	9795.9	7846.7
40°	11120.5	11117.9	11116.6	11044.0	10591.4	10020.3	9570.3	9477.2	9505.2	10520.0	8306.9
42.5°	10497.1	10590.1	10857.8	11268.3	11394.6	11095.0	10669.2	10461.4	10400.2	11351.2	8793.9
45°	9608.5	9655.7	10124.8	11047.8	11798.7	12104.6	11784.7	11346.1	11241.6	12159.5	9190.3
47.5°	9195.4	9175.0	9446.6	10452.4	11759.2	12907.8	12930.7	12211.7	12034.5	12856.8	9528.2
50°	8309.4	8282.7	8625.6	9576.6	11328.3	13306.8	14107.4	13155.1	12827.5	13519.7	9834.1
52.5°	6543.8	6518.3	6978.5	8203.6	10364.5	13157.7	15099.2	14312.7	13754.3	14158.4	10119.7
55°	4258.0	4260.5	4699.1	5962.4	8387.2	12288.2	15564.6	15650.0	15024.0	14797.1	10350.5
57.5°	2344.4	2322.8	2635.1	3411.5	5769.9	10313.5	15177.0	16613.8	16287.4	15345.3	10517.5
58°	2084.4	2058.9	2299.8	2969.1	5173.3	9756.4	14982.0	16675.0	16449.3	15435.8	10541.7
60°	1485.2	1441.8	1404.9	1673.9	2980.6	7034.6	13681.6	16278.5	16496.5	15616.8	10518.7
62.5°	1251.9	1202.2	1069.6	1059.4	1403.6	3440.8	10819.6	14296.1	14906.7	15200.0	10149.0
65°	1162.7	1112.9	938.3	875.8	952.3	1485.2	6690.4	11038.9	11854.8	13750.5	9218.4
67.5°	1098.9	1040.3	852.9	771.3	786.6	888.6	2839.1	7219.4	8165.4	10722.7	7395.4
70°	1041.5	976.5	785.3	691.0	678.2	675.7	1109.1	3769.7	4681.2	7016.7	4954.0
72.5°	976.5	912.8	725.4	624.7	596.6	548.2	666.7	1557.9	2135.4	3439.5	2270.5
75°	882.2	829.9	659.1	569.9	521.4	444.9	492.1	747.1	920.4	1316.9	1054.3
77.5°	776.4	734.3	591.5	524.0	458.9	363.3	376.1	506.1	568.6	742.0	610.7
80°	549.5	564.8	516.3	461.5	404.1	293.2	289.4	371.0	407.9	498.5	410.5
82.5°	378.6	390.1	420.7	364.6	326.4	228.2	212.9	257.5	276.6	300.9	198.9
85°	270.3	262.6	291.9	261.3	239.7	145.3	136.4	163.2	174.7	183.6	95.6
87.5°	164.5	163.2	168.3	135.1	124.9	73.9	67.6	77.8	82.9	80.3	45.9
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°	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1	5446.1
2.5°	5437.2	5374.7	5238.3	5128.7	5010.1	4919.6	4829.1	4778.1	4722.0	4690.1	4686.3
5°	5497.1	5369.6	5079.0	4808.7	4530.8	4280.9	4036.2	3855.1	3707.2	3623.1	3618.0
7.5°	5563.4	5363.3	4914.5	4446.7	3952.0	3459.9	3025.2	2718.0	2520.4	2428.6	2422.2
10°	5614.4	5336.5	4714.4	3986.4	3202.4	2552.2	2157.0	1976.0	1916.1	1900.8	1898.2
12.5°	5675.6	5317.4	4462.0	3396.2	2447.7	1942.9	1823.0	1811.6	1824.3	1832.0	1833.2
15°	5733.0	5280.4	4121.6	2742.2	1916.1	1736.3	1738.9	1763.1	1788.6	1800.1	1801.4
17.5°	5759.7	5189.9	3674.1	2160.9	1676.4	1643.3	1672.6	1704.5	1727.4	1736.3	1736.3
20°	5759.7	5044.6	3155.2	1750.4	1551.5	1557.9	1593.6	1617.8	1622.9	1615.2	1611.4
22.5°	5735.5	4864.8	2650.4	1527.3	1449.5	1473.7	1501.8	1485.2	1425.3	1379.4	1370.5
25°	5713.8	4651.9	2164.7	1390.9	1360.3	1392.1	1380.7	1267.2	1175.4	1128.2	1120.6
27.5°	5678.2	4394.4	1759.3	1278.7	1273.6	1299.1	1185.6	1076.0	1030.1	1004.6	999.5
30°	5669.2	4115.2	1472.4	1179.2	1188.2	1152.5	1022.4	986.7	976.5	962.5	956.1
32.5°	5698.6	3836.0	1292.7	1097.6	1106.6	989.3	939.6	944.7	943.4	925.5	919.2
35°	5778.9	3564.5	1178.0	1023.7	998.2	886.0	892.4	907.7	907.7	886.0	878.4
37.5°	5919.1	3312.0	1105.3	961.2	873.3	832.5	849.0	869.4	869.4	854.1	847.8
40°	6068.3	3066.0	1050.5	911.5	794.2	795.5	812.1	827.4	833.7	836.3	831.2
42.5°	6203.4	2811.0	991.8	858.0	758.5	767.5	775.1	786.6	813.4	831.2	828.6
45°	6282.4	2554.8	928.1	791.7	734.3	738.1	735.6	756.0	787.9	814.6	814.6
47.5°	6355.1	2344.4	875.8	725.4	710.1	710.1	702.4	722.8	752.2	784.0	786.6
50°	6423.9	2208.0	838.8	674.4	679.5	675.7	673.1	692.2	731.8	770.0	776.4
52.5°	6494.1	2162.1	805.7	637.4	647.6	642.5	645.1	671.8	716.5	756.0	762.4
55°	6592.2	2191.5	771.3	611.9	617.0	615.7	625.9	656.5	696.1	735.6	738.1
57.5°	6713.3	2298.5	742.0	592.8	587.7	595.4	611.9	641.2	679.5	726.7	730.5
58°	6737.5	2324.0	736.9	587.7	581.3	592.8	609.4	637.4	676.9	726.7	730.5
60°	6774.5	2414.6	724.1	577.5	559.7	580.1	600.5	628.5	671.8	733.0	740.7
62.5°	6596.0	2432.4	720.3	566.0	536.7	562.2	586.4	618.3	666.7	754.7	771.3
65°	5977.7	2248.8	693.5	546.9	517.6	548.2	573.7	610.7	682.0	819.7	827.4
67.5°	4798.5	1867.6	628.5	517.6	495.9	531.6	563.5	610.7	688.4	829.9	835.0
70°	3299.3	1403.6	546.9	485.7	470.4	511.2	559.7	624.7	666.7	785.3	770.0
72.5°	1723.6	976.5	479.3	448.7	439.8	493.4	596.6	610.7	641.2	733.0	717.7
75°	868.2	664.2	422.0	406.7	405.4	487.0	668.0	587.7	614.5	689.7	722.8
77.5°	512.5	520.1	376.1	367.2	373.5	475.5	669.3	564.8	583.9	634.9	670.6
80°	350.6	429.6	340.4	337.8	342.9	437.3	617.0	536.7	548.2	600.5	638.7
82.5°	197.6	237.1	298.3	314.9	312.3	358.2	532.9	488.3	502.3	710.1	750.9
85°	95.6	142.8	249.9	294.5	266.4	238.4	433.4	433.4	437.3	508.7	515.0
87.5°	35.7	63.7	168.3	233.3	186.1	142.8	294.5	307.2	341.7	351.9	359.5
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)