

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: P195137

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195137
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29479 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G4

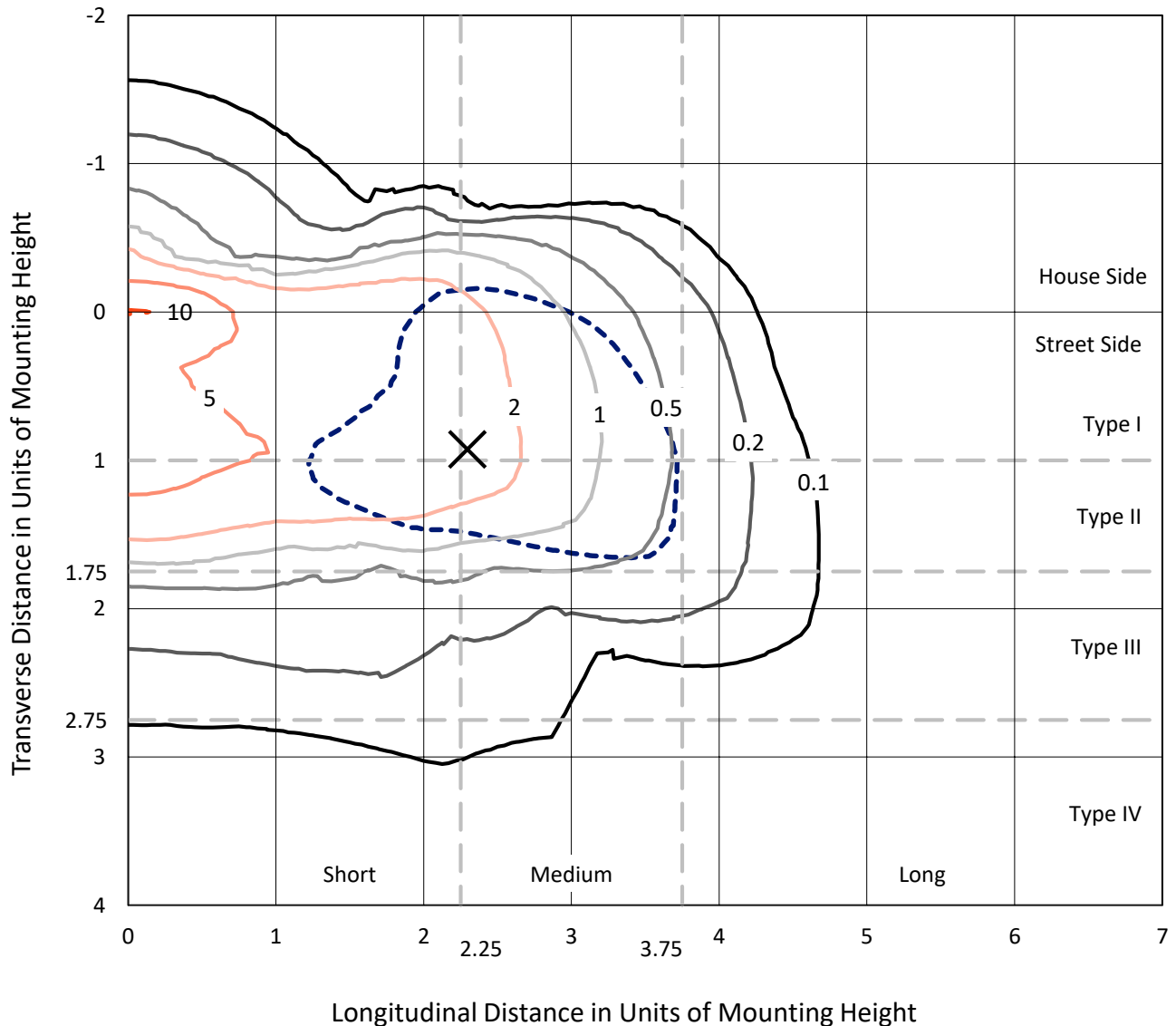
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

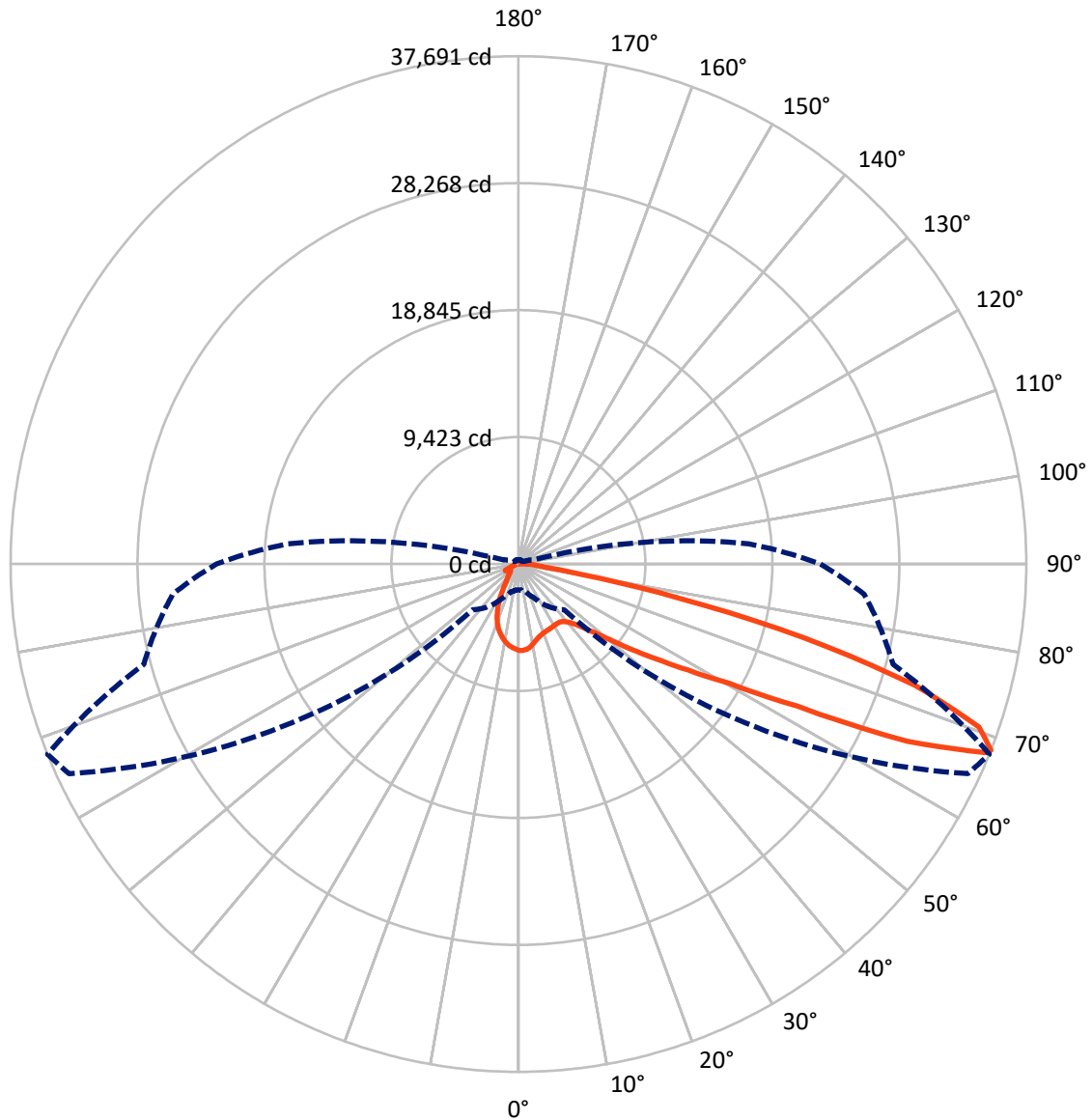
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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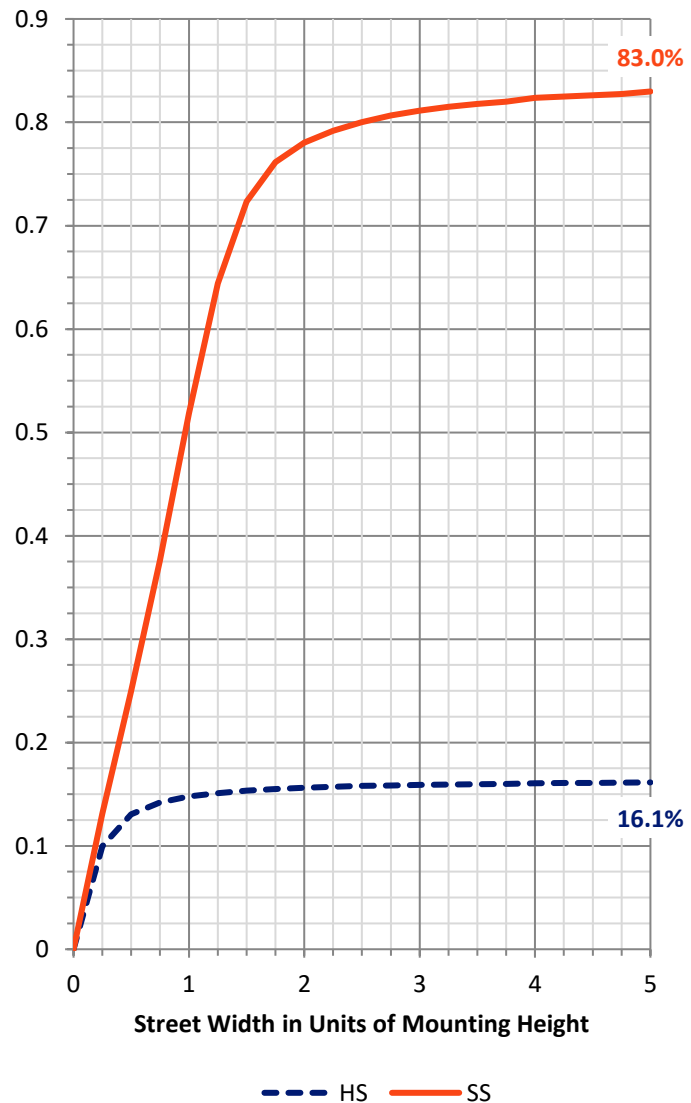
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4822.8	0.0	4822.8
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	24656.1	0.0	24656.1
	% Fixture	83.6	0.0	83.6
Total	Lumens	29479.0	0.0	29479.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	549.6	1.9
10°-20°	1274.7	4.3
20°-30°	1724.0	5.8
30°-40°	2430.8	8.2
40°-50°	3997.2	13.6
50°-60°	6195.9	21.0
60°-70°	8033.5	27.3
70°-80°	4610.0	15.6
80°-90°	663.3	2.3
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°	29479.0	100.0
0°-180°	29479.0	100.0

Coefficient of Utilization



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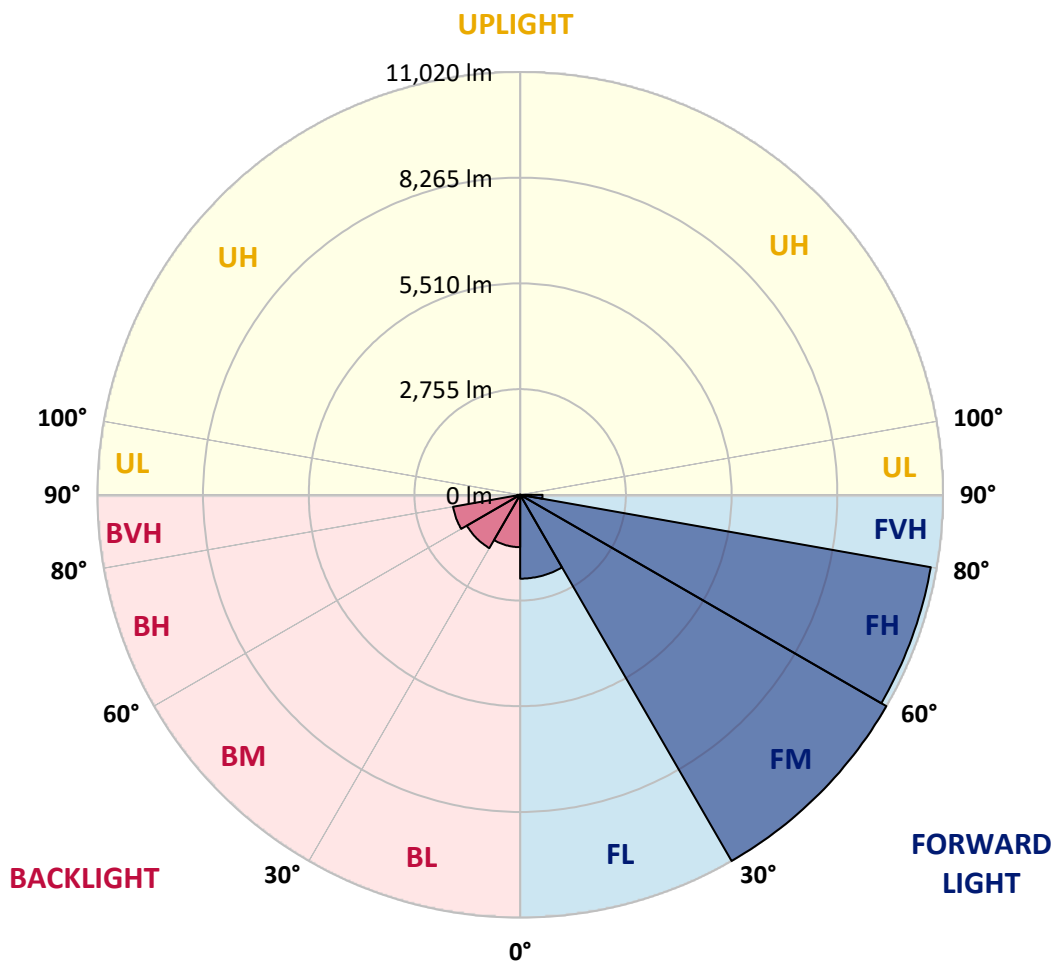
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2184.9	7.4			
FM (30°-60°)	11019.7	37.4			
FH (60°-80°)	10867.3	36.9			G4/12000
FVH (80°-90°)	584.2	2.0			G4/750
BL (0°-30°)	1363.5	4.6	B3/2500		
BM (30°-60°)	1604.1	5.4	B2/2500		
BH (60°-80°)	1776.2	6.0	B3/2500		G3/2500
BVH (80°-90°)	79.1	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4
2.5°	6243.0	6293.1	6293.1	6329.6	6362.4	6389.3	6412.4	6412.4	6412.4	6397.0	6383.6
5°	5586.3	5653.7	5663.4	5755.8	5877.1	6025.4	6191.0	6337.3	6366.2	6420.1	6441.3
7.5°	5130.0	5151.1	5187.7	5251.3	5374.5	5557.4	5817.4	6144.8	6223.7	6393.2	6481.8
10°	4806.4	4823.8	4854.6	4918.1	5029.8	5195.4	5451.5	5877.1	6008.1	6308.5	6483.7
12.5°	4569.6	4583.1	4612.0	4669.7	4783.3	4931.6	5193.5	5636.4	5798.2	6223.7	6510.7
15°	4384.7	4407.8	4430.9	4486.8	4602.3	4744.8	5010.6	5461.2	5636.4	6156.3	6560.7
17.5°	4311.5	4323.1	4327.0	4355.8	4459.8	4604.2	4870.0	5337.9	5518.9	6102.4	6599.2
20°	4357.8	4359.7	4321.2	4301.9	4361.6	4494.5	4752.5	5245.5	5430.4	6054.3	6614.6
22.5°	4560.0	4560.0	4459.8	4375.1	4334.7	4417.5	4673.6	5181.9	5382.2	6017.7	6614.6
25°	4945.1	4927.8	4771.8	4604.2	4425.2	4390.5	4623.5	5141.5	5345.6	5998.4	6589.6
27.5°	5451.5	5436.1	5237.8	4989.4	4665.9	4448.3	4606.2	5108.8	5309.0	5969.5	6535.7
30°	6067.7	6054.3	5829.0	5503.5	5026.0	4631.2	4646.6	5085.7	5280.2	5921.4	6445.2
32.5°	6682.0	6674.3	6495.2	6162.1	5522.8	4941.2	4752.5	5081.8	5264.7	5863.6	6335.4
35°	7300.2	7300.2	7190.4	6909.3	6191.0	5407.2	4974.0	5153.1	5293.6	5832.8	6241.1
37.5°	8212.9	8176.3	7972.2	7681.5	7032.5	6011.9	5332.1	5303.3	5405.3	5884.8	6210.2
40°	9626.4	9520.5	9010.2	8521.0	7951.0	6786.0	5855.9	5594.0	5655.7	6062.0	6283.4
42.5°	11105.3	10937.7	10261.8	9480.0	8900.4	7741.1	6543.4	6065.8	6063.9	6404.7	6516.4
45°	12374.3	12287.6	11555.9	10564.2	9984.5	8815.7	7411.9	6766.8	6697.4	6936.2	6965.1
47.5°	13111.8	13054.0	12613.1	11711.9	11270.9	10084.7	8513.3	7739.2	7608.3	7750.8	7706.5
50°	12907.7	12963.5	12836.4	12376.2	12653.5	11867.8	9917.1	9071.8	8823.4	8965.9	8858.0
52.5°	11833.2	11983.4	12097.0	12185.6	13448.8	14253.7	11681.0	10735.5	10529.5	10504.5	10400.5
55°	9897.9	10136.7	10494.8	11145.7	13235.0	16169.8	14762.1	12747.9	12447.5	12289.6	12330.0
57.5°	6736.0	7098.0	7870.2	9108.4	12123.9	16986.2	19318.2	15347.5	14839.1	14276.8	14407.8
60°	3710.7	4013.1	4931.6	6179.4	9587.9	16864.9	23356.3	19572.4	17972.2	16481.7	16751.3
62.5°	2401.3	2466.8	3150.4	4221.0	5884.8	14889.2	25599.7	26633.8	23242.7	19389.5	19768.8
65°	1929.5	1975.7	2310.8	3404.6	4099.7	9578.2	25699.8	33959.0	31723.3	23340.9	23352.5
67.5°	1885.2	1906.4	2100.9	2863.5	3845.5	5214.7	22214.4	36847.5	37365.5	28004.8	25749.9
68°	1912.2	1937.2	2133.6	2774.9	3843.6	4806.4	20531.4	36803.2	37690.9	28784.7	25749.9
70°	1686.9	1717.7	2176.0	2871.2	3679.9	4132.5	14059.2	34848.6	36277.5	30577.5	24432.8
72.5°	882.0	856.9	1076.4	2266.5	4142.1	4305.8	7427.3	29114.0	30781.6	28318.7	21109.1
75°	687.5	625.8	602.7	895.4	3643.3	4465.6	4313.5	20693.1	21952.5	20413.9	14109.3
77.5°	647.0	571.9	527.6	529.6	1604.1	4646.6	3489.3	12177.9	12177.9	9738.1	4502.2
80°	519.9	450.6	421.7	481.4	774.1	4282.7	3641.4	5549.7	4733.3	2516.8	1240.1
82.5°	342.8	306.2	308.1	390.9	587.3	2859.6	4217.2	2740.2	2058.5	1115.0	729.8
85°	217.6	186.8	208.0	273.4	439.1	1274.8	4174.8	1904.5	1363.4	625.8	363.9
87.5°	109.8	84.7	104.0	142.5	267.7	365.9	3437.3	1700.4	1011.0	260.0	198.3
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°	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4	6414.4
2.5°	6383.6	6341.2	6320.0	6285.3	6243.0	6200.6	6171.7	6158.3	6150.6	6154.4	6152.5
5°	6429.8	6373.9	6283.4	6154.4	6021.5	5881.0	5773.1	5690.3	5638.3	5622.9	5619.1
7.5°	6464.4	6383.6	6214.1	5979.2	5751.9	5505.5	5295.6	5128.0	5014.4	4962.4	4960.5
10°	6458.7	6354.7	6087.0	5740.4	5407.2	5045.2	4715.9	4434.8	4230.7	4132.5	4128.6
12.5°	6464.4	6321.9	5931.0	5461.2	4983.6	4465.6	3976.5	3539.4	3235.1	3090.7	3084.9
15°	6487.5	6287.3	5771.2	5149.2	4488.7	3757.0	3057.9	2509.1	2231.8	2137.5	2137.5
17.5°	6485.6	6229.5	5586.3	4787.2	3901.4	2921.2	2087.4	1748.5	1721.5	1808.2	1821.7
20°	6447.1	6137.1	5347.6	4357.8	3212.0	2021.9	1415.4	1367.2	1582.9	1821.7	1848.6
22.5°	6387.4	6017.7	5072.2	3859.0	2409.0	1317.2	1091.8	1165.0	1457.7	1754.3	1796.6
25°	6304.6	5873.3	4756.4	3279.4	1602.1	947.4	910.8	1001.3	1207.4	1405.7	1436.5
27.5°	6183.3	5690.3	4411.7	2651.6	1022.5	779.9	793.4	856.9	945.5	1030.2	1047.6
30°	6031.2	5476.6	4036.2	1956.5	776.0	697.1	720.2	758.7	797.2	851.1	862.7
32.5°	5877.1	5259.0	3645.3	1344.1	677.8	652.8	675.9	697.1	729.8	766.4	774.1
35°	5738.5	5056.8	3242.8	937.8	635.5	623.9	635.5	648.9	681.7	718.3	722.1
37.5°	5638.3	4891.2	2823.0	741.4	610.4	598.9	604.7	610.4	648.9	702.9	708.6
40°	5624.8	4781.4	2397.4	666.3	591.2	575.8	571.9	575.8	625.8	687.5	693.2
42.5°	5755.8	4787.2	1981.5	635.5	575.8	558.4	543.0	550.7	595.0	643.2	647.0
45°	6065.8	4922.0	1621.4	622.0	562.3	548.8	525.7	529.6	550.7	575.8	579.6
47.5°	6612.7	5216.6	1346.0	614.3	550.7	539.2	510.3	498.7	500.7	514.2	514.2
50°	7487.0	5709.6	1178.5	606.6	541.1	519.9	487.2	464.1	458.3	466.0	467.9
52.5°	8790.6	6554.9	1097.6	591.2	523.8	494.9	458.3	435.2	425.6	433.3	433.3
55°	10552.6	7904.8	1059.1	570.0	502.6	464.1	431.3	412.1	404.4	410.2	410.2
57.5°	12561.1	9659.1	1124.6	541.1	475.6	431.3	408.2	394.8	389.0	394.8	396.7
60°	14947.0	11954.5	1575.2	504.5	446.8	402.5	389.0	381.3	377.4	383.2	383.2
62.5°	18118.5	15008.6	2437.9	475.6	415.9	375.5	371.7	367.8	363.9	369.7	369.7
65°	21542.3	17787.3	2509.1	458.3	389.0	352.4	354.3	354.3	350.5	356.2	356.2
67.5°	22632.3	17546.6	1401.9	437.1	356.2	329.3	337.0	337.0	335.1	340.8	338.9
68°	22401.2	17165.3	1220.9	431.3	350.5	323.5	331.2	333.1	331.2	337.0	335.1
70°	20679.6	15070.2	803.0	398.6	325.4	304.3	315.8	317.7	315.8	323.5	321.6
72.5°	17071.0	11303.6	593.1	348.5	294.6	279.2	290.8	292.7	294.6	302.3	300.4
75°	10841.5	6243.0	467.9	296.6	263.8	250.3	261.9	267.7	271.5	283.1	277.3
77.5°	2969.4	1894.8	379.4	252.3	227.2	221.5	229.2	236.9	240.7	254.2	244.6
80°	1039.9	837.7	315.8	213.7	188.7	186.8	194.5	202.2	206.0	217.6	206.0
82.5°	631.6	546.9	252.3	167.5	148.3	146.4	156.0	163.7	167.5	167.5	159.8
85°	329.3	288.8	184.9	117.5	102.1	96.3	113.6	123.2	125.2	123.2	117.5
87.5°	184.9	163.7	98.2	55.8	46.2	48.1	59.7	73.2	79.0	77.0	73.2
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)