

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: P195999

Luminaire Tested: **NAV-AF-03-D-UNV-AFL-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195999  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-AFL-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15553 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 166  
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

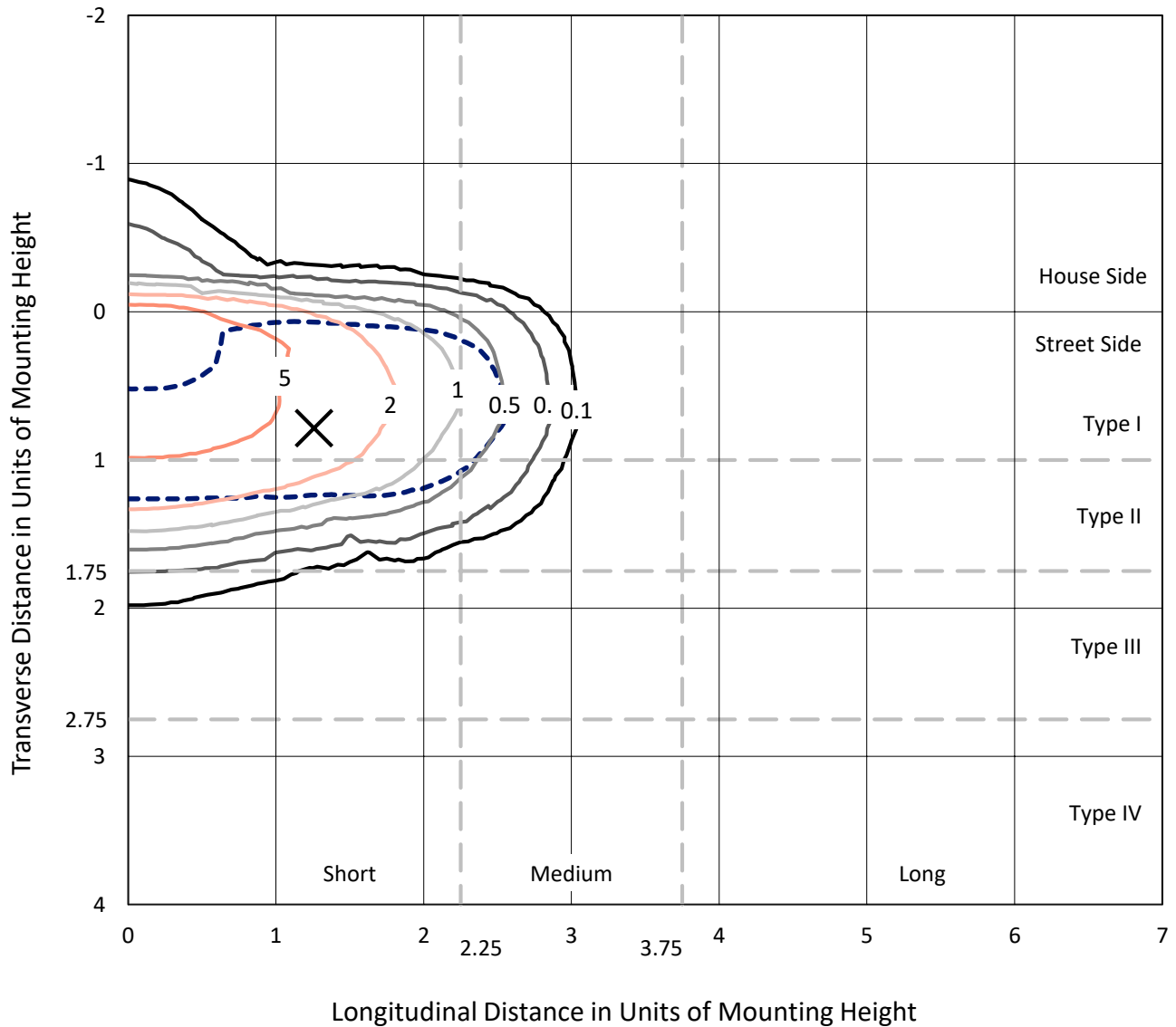


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### Iso-Footcandle Lines of Horizontal Illumination

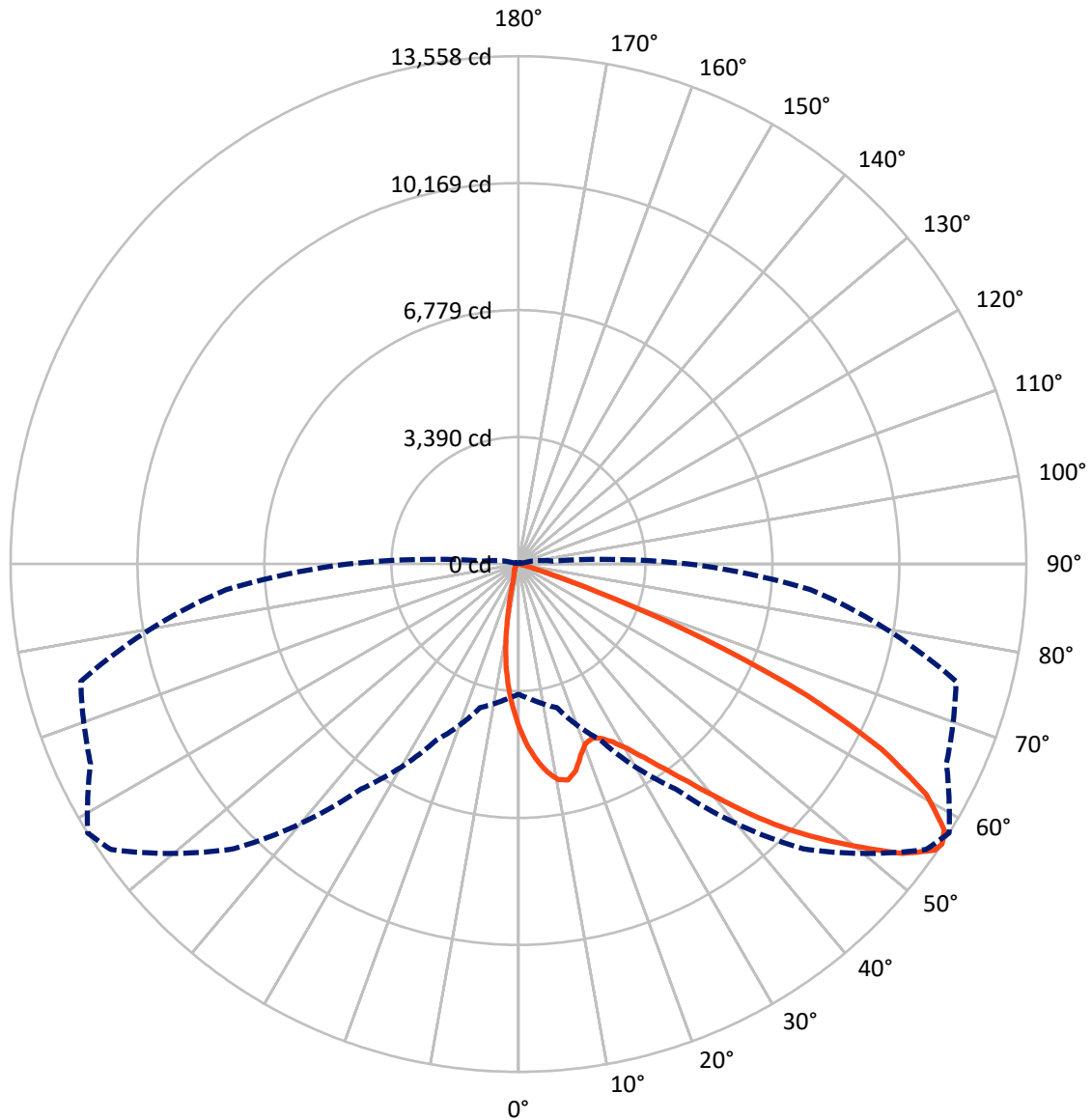
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.8 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 56-Deg Vertical

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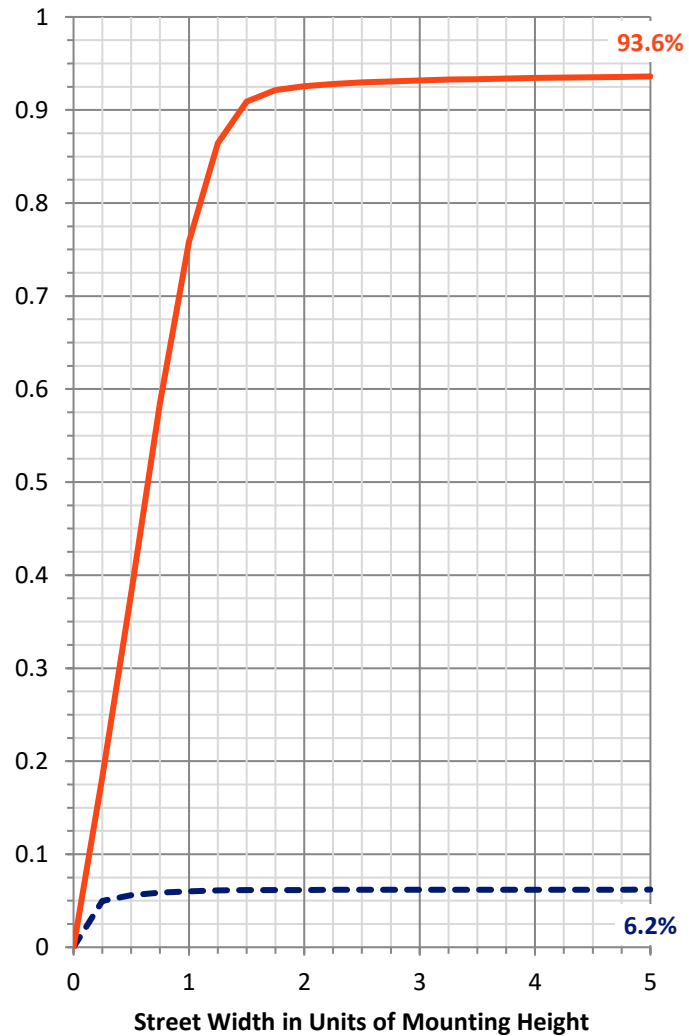
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	970.8	0.0	970.8
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	14582.1	0.0	14582.1
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	15553.0	0.0	15553.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	375.6	2.4
10°-20°	874.1	5.6
20°-30°	1470.8	9.5
30°-40°	2518.5	16.2
40°-50°	3800.5	24.4
50°-60°	3950.5	25.4
60°-70°	2217.8	14.3
70°-80°	304.0	2.0
80°-90°	41.2	0.3
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°	15553.0	100.0
0°-180°	15553.0	100.0



--- HS    — SS

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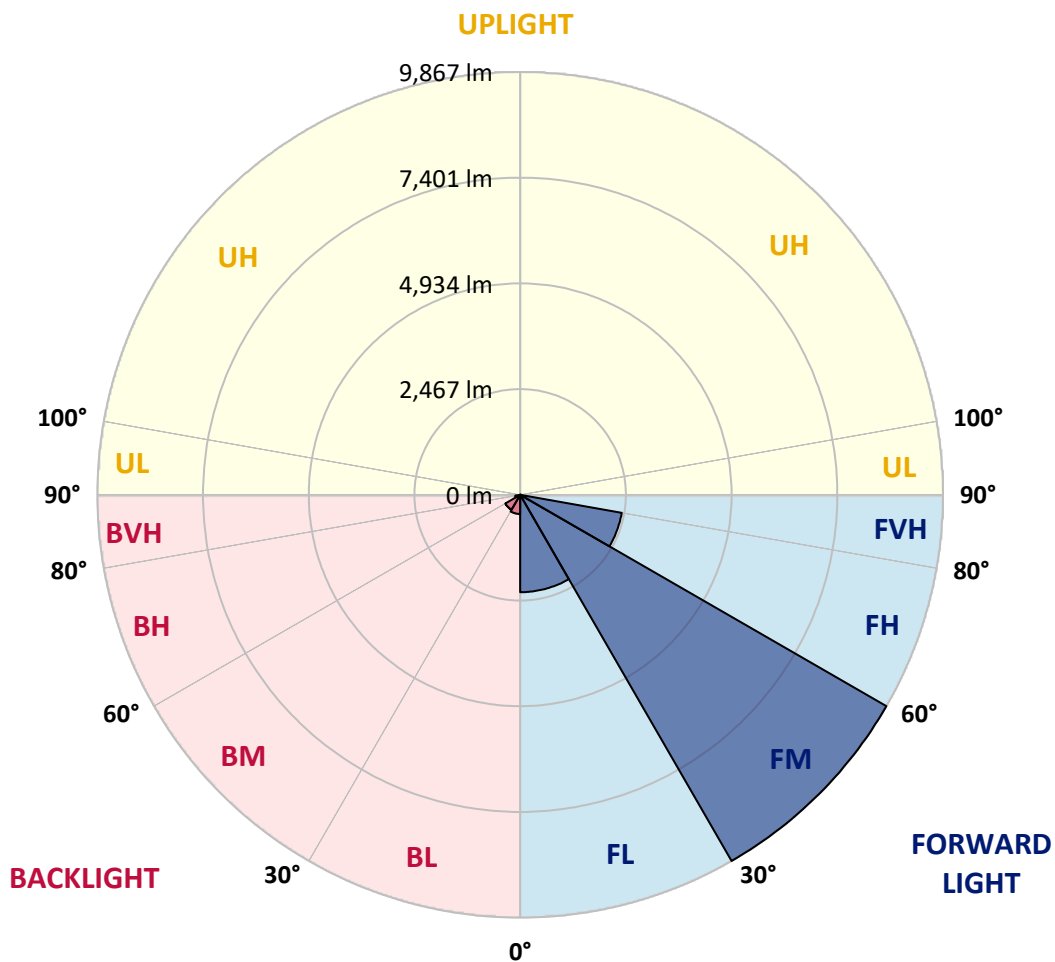
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2272.6	14.6			
FM	(30°-60°)	9867.4	63.4			
FH	(60°-80°)	2406.6	15.5			G2/5000
FVH	(80°-90°)	35.5	0.2			G1/100
BL	(0°-30°)	447.8	2.9	B1/500		
BM	(30°-60°)	402.1	2.6	B1/1000		
BH	(60°-80°)	115.2	0.7	B1/500		G1/500
BVH	(80°-90°)	5.7	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5
2.5°	5298.2	5266.2	5232.9	5171.2	5114.2	5026.5	4905.5	4875.8	4780.9	4624.2	4478.3
5°	5755.0	5749.1	5726.6	5676.8	5615.1	5508.3	5371.8	5280.4	5133.3	4886.4	4605.2
7.5°	5484.6	5534.4	5616.2	5732.5	5810.9	5800.1	5695.7	5616.2	5470.2	5133.3	4729.8
10°	4623.0	4632.5	4745.3	4989.6	5376.5	5737.2	5873.7	5852.4	5718.3	5349.2	4839.0
12.5°	4319.3	4325.2	4351.3	4429.6	4681.1	5184.3	5802.5	5914.1	5903.3	5555.7	4955.3
15°	4343.0	4346.5	4353.7	4378.6	4449.8	4702.5	5441.8	5725.4	6022.0	5751.5	5069.2
17.5°	4530.4	4528.1	4505.6	4481.9	4504.4	4587.4	5073.9	5372.9	5997.2	5916.4	5162.9
20°	4895.9	4907.8	4831.9	4726.2	4671.7	4675.2	4892.4	5116.7	5857.1	6044.6	5232.9
22.5°	5409.8	5418.1	5293.5	5110.8	4950.6	4869.9	4930.3	5049.0	5695.7	6163.3	5289.9
25°	6023.2	6023.2	5848.8	5588.9	5340.9	5164.2	5111.9	5157.0	5634.0	6297.4	5346.9
27.5°	6685.4	6709.1	6481.2	6140.7	5813.2	5554.5	5390.7	5382.5	5681.5	6465.9	5410.9
30°	7405.7	7427.0	7156.5	6739.9	6351.9	6020.9	5769.3	5714.7	5863.0	6692.5	5504.7
32.5°	8122.3	8140.1	7841.1	7416.3	6964.2	6575.0	6244.0	6157.3	6189.4	7023.6	5642.3
35°	9033.7	9037.3	8658.7	8153.2	7670.3	7213.4	6794.5	6709.1	6673.5	7441.3	5840.5
37.5°	9758.6	9730.2	9490.5	9012.3	8458.2	7981.2	7488.7	7377.1	7291.7	8028.6	6147.8
40°	9929.6	9929.6	9894.0	9750.4	9310.2	8850.9	8373.9	8207.7	8019.1	8720.3	6560.8
42.5°	9484.6	9513.0	9748.0	10060.1	10063.7	9769.4	9303.0	9163.0	8830.7	9508.3	7011.7
45°	8489.0	8497.3	9061.0	9903.5	10475.4	10643.9	10299.8	10106.3	9645.9	10327.1	7424.6
47.5°	8130.6	8156.8	8396.5	9426.4	10506.2	11352.3	11256.1	10990.4	10400.6	11074.7	7810.2
50°	7580.1	7612.1	7905.2	8723.9	10228.6	11806.8	12171.1	11886.3	11087.7	11697.6	8001.3
52.5°	6262.9	6312.7	6726.9	7794.9	9534.4	11825.7	13008.8	12837.9	11791.3	12031.0	7978.8
55°	4309.8	4346.5	4829.5	6084.9	8134.2	11245.5	13369.6	13487.0	12419.0	12105.8	7869.6
56°	3476.8	3614.4	3968.0	5184.3	7336.8	10751.8	13286.5	13558.2	12605.3	12093.9	7822.1
57.5°	2298.5	2324.6	2710.2	3756.8	5891.5	9680.4	12911.5	13406.3	12845.1	12033.4	7787.7
60°	1081.0	1092.8	1231.7	1733.6	3188.4	7054.4	11692.8	12514.0	12932.9	11906.4	7786.5
62.5°	704.8	707.3	723.8	827.1	1304.1	3842.2	9693.4	10875.3	12205.4	11892.2	7764.0
65°	580.2	586.2	566.0	579.1	682.3	1448.8	6837.2	8478.3	10497.9	11557.6	7510.1
67.5°	511.5	512.6	485.3	469.9	499.6	636.1	3444.7	5348.1	7851.8	9820.4	6185.8
70°	466.4	465.1	434.3	398.7	399.9	422.5	1122.5	2221.3	4344.2	5831.0	3551.5
72.5°	414.1	416.5	398.7	348.8	332.3	299.0	422.5	599.2	1478.5	1872.5	936.2
75°	363.1	358.3	340.5	308.5	277.6	200.5	212.4	255.1	385.7	382.1	201.7
77.5°	275.3	270.6	278.9	263.4	217.2	140.0	116.3	132.9	174.4	162.5	81.8
80°	210.0	207.7	189.9	225.5	198.1	105.6	79.5	81.8	94.9	86.6	40.3
82.5°	151.9	150.7	143.6	138.8	125.8	77.1	60.6	64.0	71.2	60.6	29.7
85°	58.1	58.1	112.7	94.9	86.6	52.2	42.8	46.2	54.6	43.9	20.2
87.5°	9.5	9.5	75.9	62.9	39.2	26.1	27.3	29.7	32.0	26.1	15.4
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°	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5	4403.5
2.5°	4391.6	4312.1	4137.7	3969.3	3822.1	3660.7	3578.8	3483.9	3448.3	3377.1	3384.2
5°	4436.7	4270.6	3920.6	3551.5	3213.3	2869.2	2624.8	2394.6	2266.4	2139.5	2139.5
7.5°	4483.0	4229.1	3687.9	3098.2	2528.6	1938.9	1521.2	1186.6	1000.3	875.7	872.2
10°	4515.1	4175.7	3423.4	2572.6	1732.5	999.1	602.8	474.6	428.4	408.2	407.0
12.5°	4556.6	4122.3	3121.9	1953.1	962.3	474.6	376.1	356.0	347.7	342.9	342.9
15°	4592.2	4046.4	2756.5	1313.6	505.5	356.0	324.0	316.8	315.7	314.5	315.7
17.5°	4600.5	3938.4	2318.6	769.0	366.6	310.9	296.7	290.7	290.7	289.5	289.5
20°	4581.5	3796.0	1834.5	474.6	316.8	286.0	270.6	263.4	262.3	262.3	262.3
22.5°	4542.3	3614.4	1356.3	359.6	288.4	263.4	243.3	236.1	236.1	237.3	238.6
25°	4493.7	3399.7	931.5	309.7	267.0	239.7	219.5	212.4	214.8	217.2	218.3
27.5°	4432.0	3143.3	609.9	268.2	238.6	215.9	198.1	193.4	198.1	203.0	205.3
30°	4370.3	2862.1	413.0	232.6	206.4	189.9	179.2	178.0	185.2	195.8	197.0
32.5°	4329.9	2573.7	312.1	208.9	181.6	167.4	162.5	164.9	175.6	187.5	189.9
35°	4326.4	2292.5	265.8	189.9	164.9	151.9	149.6	156.6	168.5	178.0	180.3
37.5°	4382.1	2029.1	240.9	175.6	151.9	138.8	135.2	148.3	159.0	168.5	170.8
40°	4494.8	1792.9	224.2	162.5	141.2	125.8	123.4	134.1	144.7	155.5	159.0
42.5°	4636.1	1572.3	205.3	149.6	129.3	111.5	109.1	117.4	128.2	143.6	146.0
45°	4758.3	1367.0	185.2	135.2	116.3	96.2	94.9	104.4	112.7	126.9	129.3
47.5°	4861.6	1196.1	166.1	119.9	99.6	85.4	84.3	89.0	93.7	106.8	109.1
50°	4806.9	1051.3	147.1	98.5	80.7	73.6	72.4	72.4	78.4	91.3	93.7
52.5°	4672.8	961.2	129.3	81.8	66.5	62.9	59.3	60.6	66.5	72.4	73.6
55°	4564.9	918.4	114.0	72.4	55.8	52.2	48.7	47.5	48.7	46.2	43.9
56°	4538.8	913.7	110.4	70.0	53.4	48.7	43.9	41.5	40.3	35.6	34.4
57.5°	4527.0	913.7	104.4	65.3	49.8	43.9	38.0	33.2	28.4	25.0	25.0
60°	4517.5	919.6	97.3	57.0	42.8	35.6	27.3	20.2	16.6	16.6	16.6
62.5°	4497.3	917.3	89.0	47.5	36.8	27.3	16.6	13.1	11.9	13.1	14.2
65°	4270.6	852.0	78.4	38.0	28.4	19.0	9.5	9.5	10.6	13.1	14.2
67.5°	3441.2	645.5	64.0	29.7	20.2	14.2	8.3	8.3	10.6	13.1	14.2
70°	1890.3	340.5	54.6	21.4	15.4	11.9	8.3	7.2	10.6	13.1	14.2
72.5°	461.6	142.4	49.8	16.6	14.2	10.6	7.2	7.2	10.6	13.1	14.2
75°	114.0	106.8	40.3	13.1	11.9	9.5	7.2	7.2	10.6	13.1	14.2
77.5°	53.4	141.2	27.3	11.9	10.6	8.3	7.2	7.2	10.6	13.1	13.1
80°	32.0	106.8	16.6	10.6	9.5	8.3	7.2	7.2	10.6	13.1	14.2
82.5°	19.0	30.9	11.9	10.6	9.5	7.2	7.2	7.2	10.6	13.1	14.2
85°	16.6	15.4	11.9	10.6	9.5	8.3	7.2	7.2	11.9	14.2	14.2
87.5°	13.1	11.9	10.6	9.5	9.5	8.3	7.2	7.2	10.6	13.1	14.2
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)