

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: P196001

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196001
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-05-D-UNV-AFL-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 25818.3 lumens
Efficiency: N/A
Efficacy: 92.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

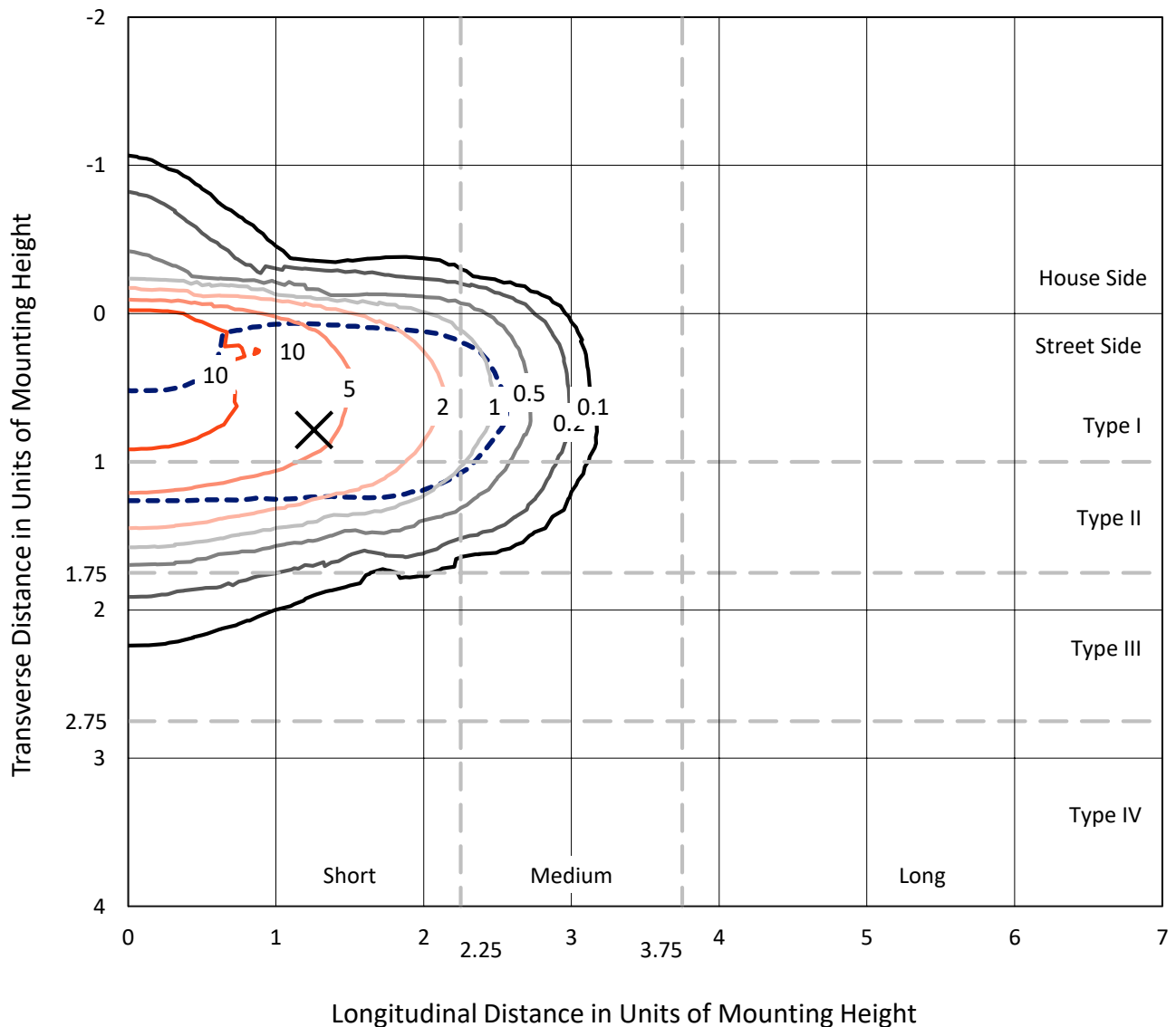
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

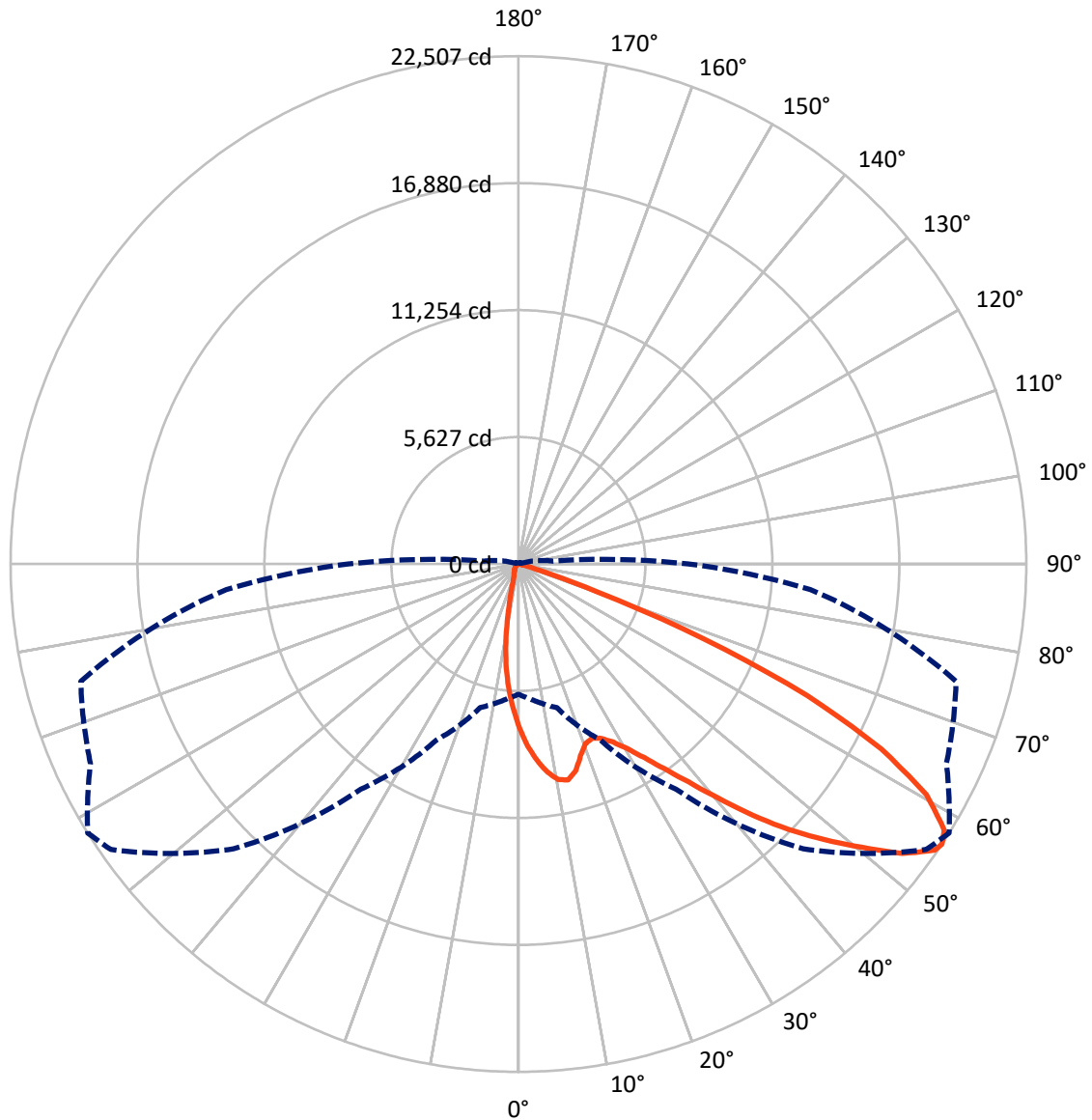
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.5 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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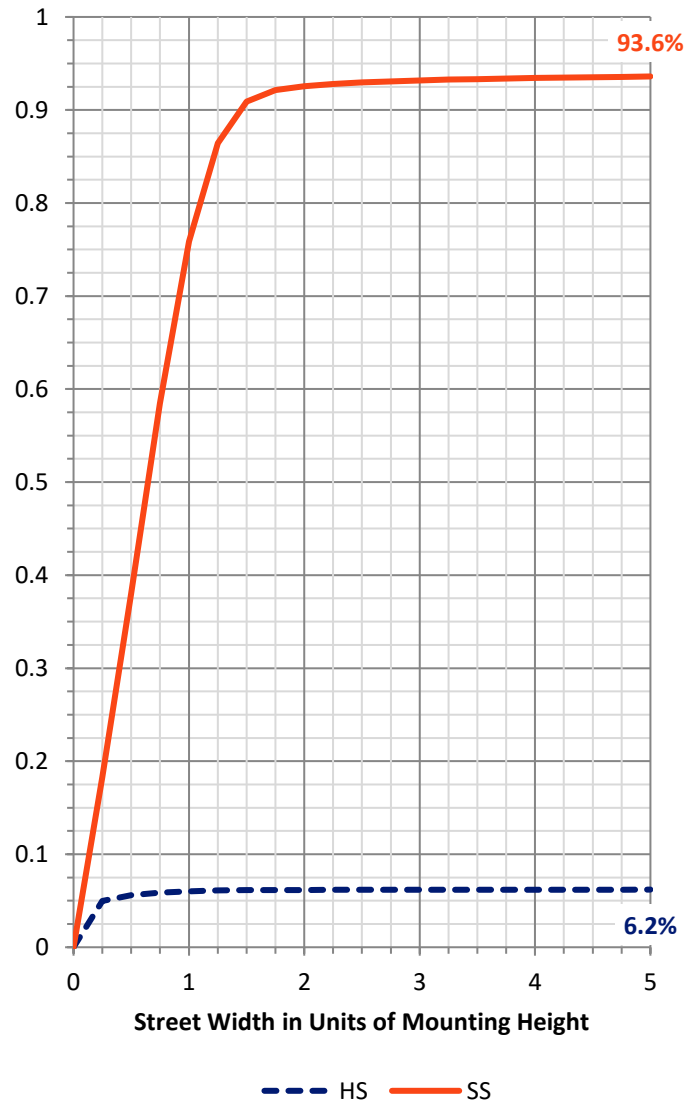
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1611.6	0.0	1611.6
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	24206.7	0.0	24206.7
	% Fixture	93.8	0.0	93.8
Total	Lumens	25818.3	0.0	25818.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	623.6	2.4
10°-20°	1451.0	5.6
20°-30°	2441.5	9.5
30°-40°	4180.8	16.2
40°-50°	6308.9	24.4
50°-60°	6557.9	25.4
60°-70°	3681.5	14.3
70°-80°	504.6	2.0
80°-90°	68.4	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°	25818.3	100.0
0°-180°	25818.3	100.0



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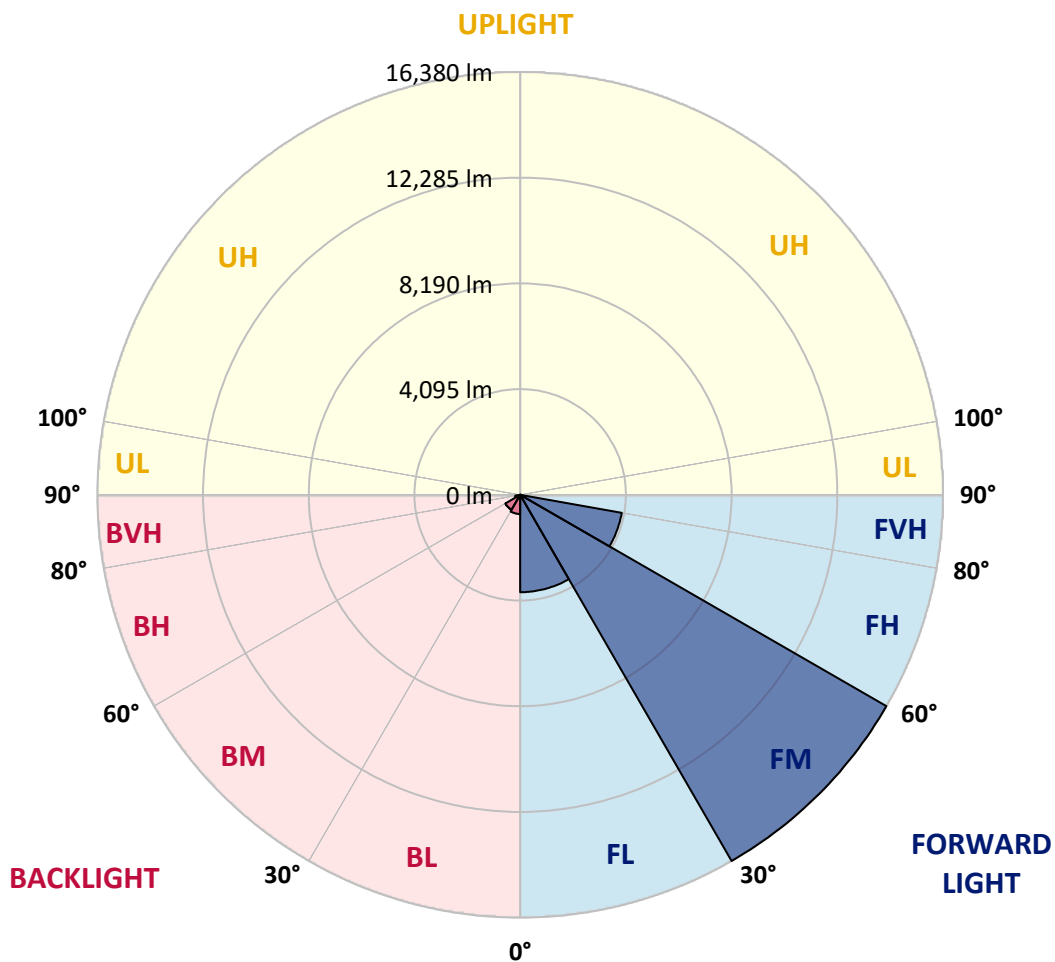
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3772.6	14.6			
FM	(30°-60°)	16380.2	63.4			
FH	(60°-80°)	3994.9	15.5			G2/5000
FVH	(80°-90°)	58.9	0.2			G1/100
BL	(0°-30°)	743.4	2.9	B2/1000		
BM	(30°-60°)	667.6	2.6	B1/1000		
BH	(60°-80°)	191.2	0.7	B1/500		G1/500
BVH	(80°-90°)	9.5	0.0			G0/10
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°	58°	65°	75°	85°
0°	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9
2.5°	8795.1	8741.9	8686.8	8584.4	8489.9	8344.1	8143.2	8093.9	7936.4	7676.3	7434.0
5°	9553.5	9543.7	9506.3	9423.5	9321.1	9143.9	8917.3	8765.6	8521.4	8111.6	7644.8
7.5°	9104.5	9187.1	9323.1	9516.1	9646.1	9628.4	9455.0	9323.1	9080.7	8521.4	7851.7
10°	7674.4	7690.1	7877.2	8283.0	8925.1	9524.0	9750.6	9715.1	9492.5	8879.8	8032.8
12.5°	7170.1	7179.9	7223.3	7353.3	7770.8	8606.1	9632.3	9817.5	9799.8	9222.6	8225.9
15°	7209.5	7215.4	7227.1	7268.6	7386.7	7806.3	9033.5	9504.2	9996.8	9547.6	8415.0
17.5°	7520.7	7516.7	7479.3	7439.9	7477.4	7615.3	8422.9	8919.2	9955.4	9821.5	8570.6
20°	8127.4	8147.1	8021.1	7845.7	7755.1	7761.0	8121.5	8493.8	9722.9	10034.1	8686.8
22.5°	8980.3	8994.1	8787.2	8483.9	8218.0	8084.1	8184.5	8381.5	9455.0	10231.1	8781.4
25°	9998.7	9998.7	9709.1	9277.8	8866.1	8572.5	8485.9	8560.8	9352.6	10453.7	8875.9
27.5°	11097.9	11137.3	10759.1	10193.7	9650.0	9220.7	8948.8	8935.0	9431.4	10733.4	8982.3
30°	12293.5	12329.0	11879.8	11188.4	10544.4	9994.7	9577.2	9486.5	9732.8	11109.7	9137.9
32.5°	13483.3	13512.9	13016.4	12311.2	11560.8	10914.7	10365.0	10221.3	10274.5	11659.3	9366.4
35°	14996.0	15002.0	14373.6	13534.5	12732.8	11974.5	11279.1	11137.3	11078.1	12352.6	9695.3
37.5°	16199.7	16152.4	15754.5	14960.7	14040.7	13248.8	12431.4	12246.3	12104.4	13327.7	10205.6
40°	16483.3	16483.3	16424.2	16185.8	15455.0	14692.7	13900.9	13625.1	13311.9	14476.1	10891.1
42.5°	15744.6	15791.9	16182.0	16700.0	16705.9	16217.4	15443.3	15210.8	14659.3	15784.0	11639.5
45°	14092.0	14105.8	15041.4	16439.9	17389.4	17669.1	17097.9	16776.8	16012.6	17143.2	12325.0
47.5°	13497.1	13540.4	13938.3	15648.1	17440.6	18845.1	18685.5	18244.3	17265.3	18384.2	12965.2
50°	12583.1	12636.3	13122.8	14482.0	16979.7	19599.5	20204.2	19731.5	18405.9	19418.3	13282.4
52.5°	10396.6	10479.3	11166.8	12939.6	15827.3	19631.0	21594.9	21311.2	19573.9	19971.8	13245.0
55°	7154.3	7215.4	8017.1	10101.1	13503.0	18667.8	22193.7	22388.7	20615.9	20095.9	13063.7
56°	5771.5	6000.0	6587.0	8606.1	12179.3	17848.3	22055.8	22507.0	20925.2	20076.2	12984.9
57.5°	3815.5	3858.9	4499.0	6236.4	9780.0	16069.6	21433.4	22254.8	21323.1	19975.8	12927.8
60°	1794.5	1814.2	2044.7	2877.9	5292.8	11710.4	19410.4	20773.5	21468.9	19764.9	12925.8
62.5°	1170.1	1174.0	1201.6	1372.9	2164.8	6378.2	16091.3	18053.2	20261.4	19741.3	12888.4
65°	963.2	973.0	939.6	961.3	1132.6	2405.2	11349.9	14074.3	17426.8	19185.9	12466.9
67.5°	848.9	851.0	805.7	780.0	829.3	1055.8	5718.3	8877.9	13034.1	16302.1	10268.6
70°	774.2	772.1	721.0	661.8	663.8	701.2	1863.4	3687.4	7211.4	9679.6	5895.6
72.5°	687.4	691.4	661.8	579.1	551.6	496.4	701.2	994.7	2454.4	3108.3	1554.2
75°	602.7	594.8	565.3	512.2	460.9	332.9	352.6	423.5	640.2	634.2	334.9
77.5°	457.0	449.1	462.9	437.3	360.5	232.4	193.0	220.7	289.6	269.9	136.0
80°	348.6	344.7	315.2	374.3	329.0	175.3	132.0	136.0	157.5	143.8	67.0
82.5°	252.2	250.2	238.3	230.5	208.8	128.1	100.5	106.4	118.2	100.5	49.2
85°	96.6	96.6	187.1	157.5	143.8	86.6	70.9	76.8	90.6	72.8	33.5
87.5°	15.8	15.8	126.0	104.4	65.0	43.4	45.3	49.2	53.2	43.4	25.6
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°	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9	7309.9
2.5°	7290.3	7158.3	6868.7	6589.0	6344.8	6076.8	5940.9	5783.4	5724.2	5606.1	5617.8
5°	7365.0	7089.4	6508.2	5895.6	5334.2	4763.0	4357.2	3975.1	3762.3	3551.6	3551.6
7.5°	7441.9	7020.4	6122.2	5143.2	4197.7	3218.6	2525.3	1969.8	1660.6	1453.7	1447.8
10°	7495.1	6931.7	5682.9	4270.5	2875.9	1658.6	1000.7	787.9	711.1	677.6	675.7
12.5°	7564.0	6843.1	5182.6	3242.2	1597.5	787.9	624.4	591.0	577.1	569.3	569.3
15°	7623.1	6717.0	4575.9	2180.5	839.1	591.0	537.8	525.9	524.0	522.0	524.0
17.5°	7636.9	6537.8	3849.0	1276.4	608.7	516.1	492.4	482.6	482.6	480.6	480.6
20°	7605.4	6301.4	3045.3	787.9	525.9	474.8	449.1	437.3	435.4	435.4	435.4
22.5°	7540.4	6000.0	2251.5	596.9	478.6	437.3	403.8	392.0	392.0	393.9	395.9
25°	7459.7	5643.5	1546.3	514.1	443.2	397.9	364.4	352.6	356.5	360.5	362.4
27.5°	7357.2	5218.0	1012.5	445.2	395.9	358.5	329.0	321.1	329.0	336.9	340.7
30°	7254.8	4751.2	685.5	386.1	342.8	315.2	297.5	295.4	307.3	325.0	327.0
32.5°	7187.8	4272.5	518.0	346.7	301.4	277.7	269.9	273.8	291.5	311.2	315.2
35°	7181.9	3805.7	441.2	315.2	273.8	252.2	248.2	260.0	279.7	295.4	299.4
37.5°	7274.5	3368.4	399.9	291.5	252.2	230.5	224.5	246.2	263.9	279.7	283.7
40°	7461.6	2976.4	372.3	269.9	234.4	208.8	204.9	222.6	240.3	258.1	263.9
42.5°	7696.0	2610.0	340.7	248.2	214.7	185.2	181.3	195.0	212.8	238.3	242.2
45°	7898.9	2269.2	307.3	224.5	193.0	159.6	157.5	173.4	187.1	210.7	214.7
47.5°	8070.3	1985.5	275.8	199.0	165.5	141.8	139.8	147.7	155.6	177.3	181.3
50°	7979.6	1745.3	244.3	163.5	133.9	122.1	120.2	120.2	130.0	151.7	155.6
52.5°	7757.0	1595.5	214.7	136.0	110.3	104.4	98.5	100.5	110.3	120.2	122.1
55°	7577.8	1524.6	189.1	120.2	92.6	86.6	80.7	78.8	80.7	76.8	72.8
56°	7534.4	1516.7	183.2	116.2	88.7	80.7	72.8	68.9	67.0	59.1	57.1
57.5°	7514.8	1516.7	173.4	108.3	82.8	72.8	63.0	55.1	47.3	41.3	41.3
60°	7499.0	1526.5	161.5	94.5	70.9	59.1	45.3	33.5	27.6	27.6	27.6
62.5°	7465.5	1522.7	147.7	78.8	61.1	45.3	27.6	21.7	19.7	21.7	23.6
65°	7089.4	1414.3	130.0	63.0	47.3	31.5	15.8	15.8	17.7	21.7	23.6
67.5°	5712.5	1071.5	106.4	49.2	33.5	23.6	13.8	13.8	17.7	21.7	23.6
70°	3137.9	565.3	90.6	35.5	25.6	19.7	13.8	11.9	17.7	21.7	23.6
72.5°	766.3	236.4	82.8	27.6	23.6	17.7	11.9	11.9	17.7	21.7	23.6
75°	189.1	177.3	67.0	21.7	19.7	15.8	11.9	11.9	17.7	21.7	23.6
77.5°	88.7	234.4	45.3	19.7	17.7	13.8	11.9	11.9	17.7	21.7	21.7
80°	53.2	177.3	27.6	17.7	15.8	13.8	11.9	11.9	17.7	21.7	23.6
82.5°	31.5	51.2	19.7	17.7	15.8	11.9	11.9	11.9	17.7	21.7	23.6
85°	27.6	25.6	19.7	17.7	15.8	13.8	11.9	11.9	19.7	23.6	23.6
87.5°	21.7	19.7	17.7	15.8	15.8	13.8	11.9	11.9	17.7	21.7	23.6
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)