

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: P196583

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196583
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-SL2-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA 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: 31276.6 lumens
Efficiency: N/A
Efficacy: 97.7 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

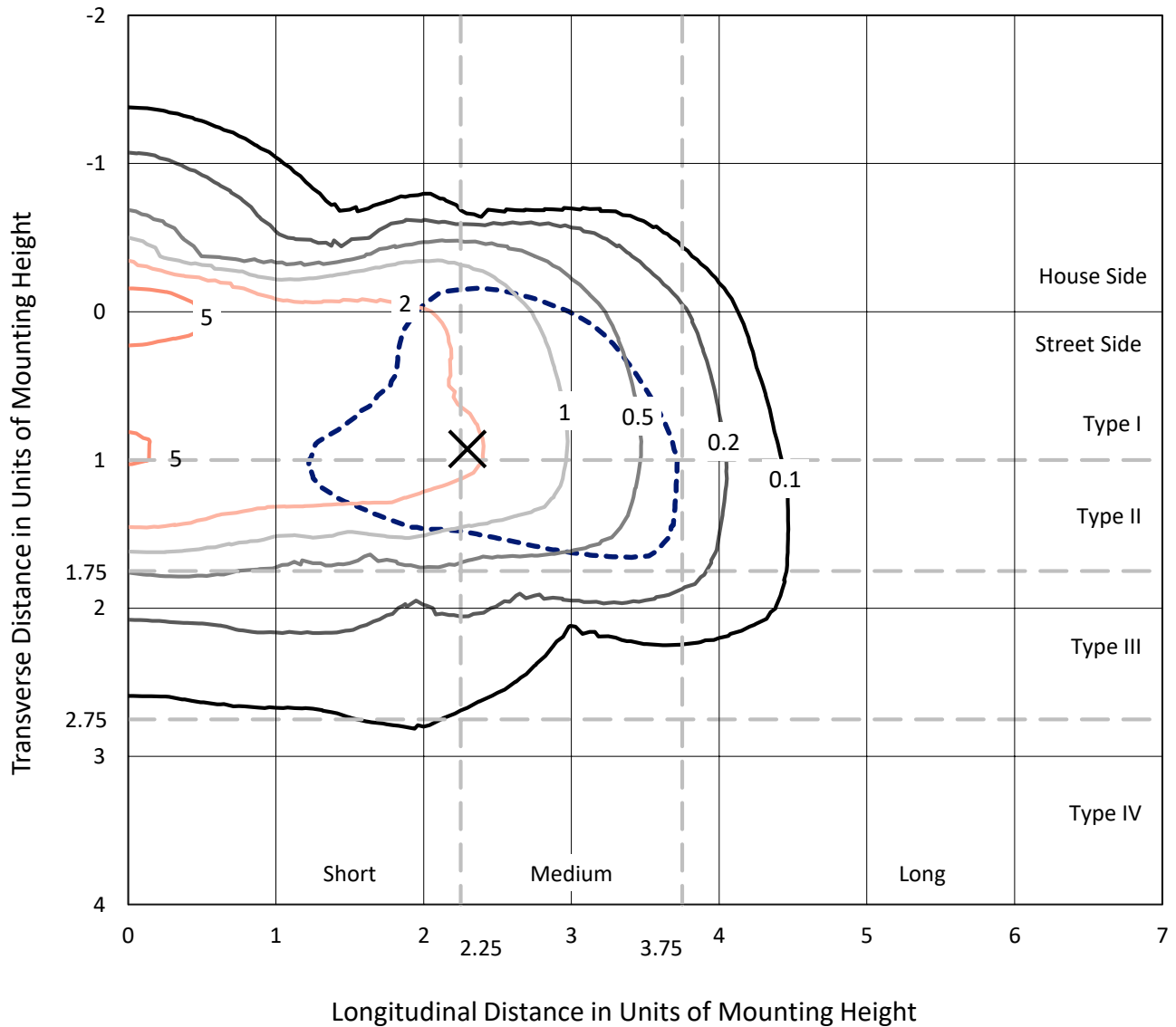
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

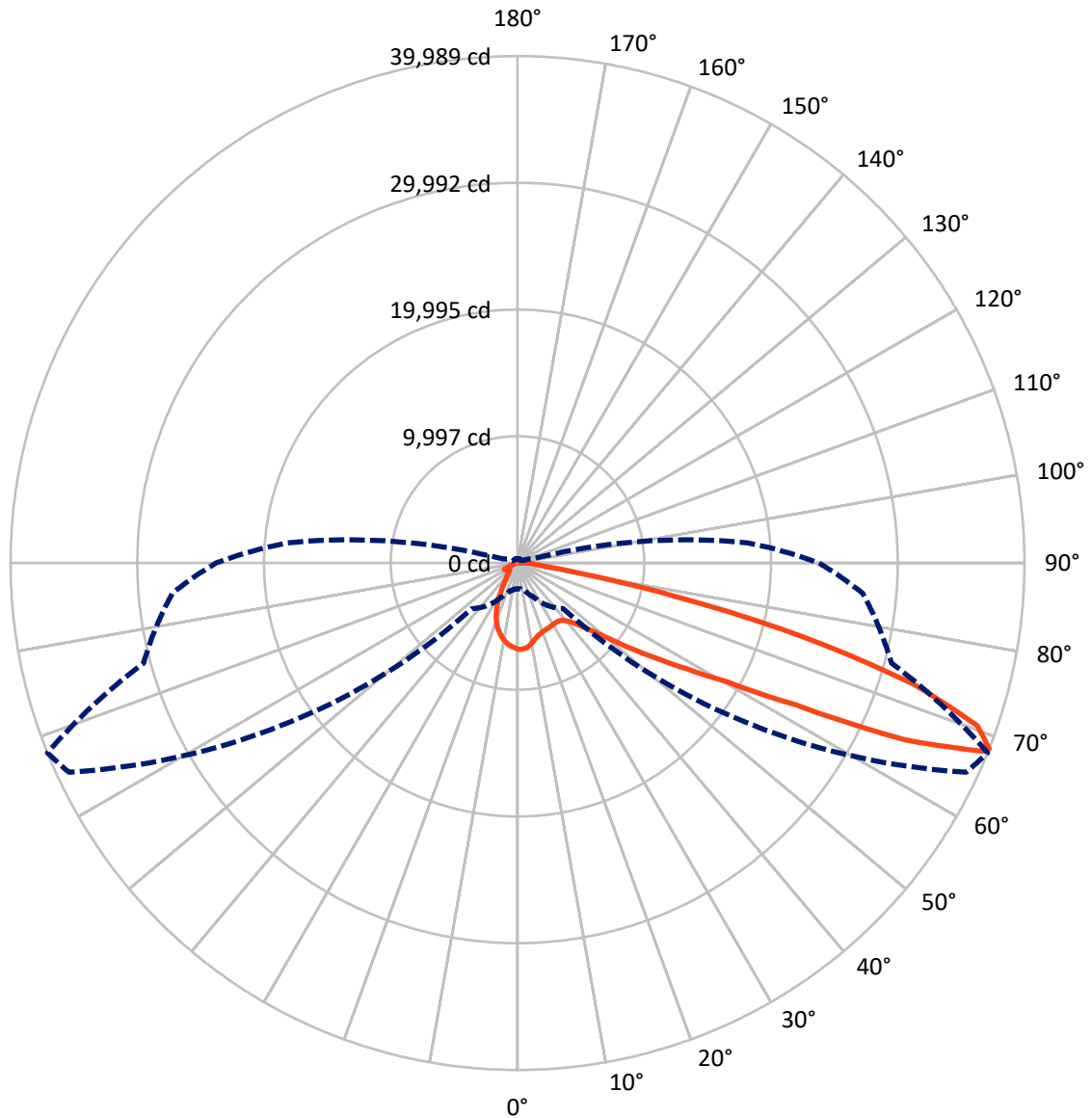
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 7.6 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	5116.9	0.0	5116.9
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	26159.6	0.0	26159.6
	% Fixture	83.6	0.0	83.6
Total	Lumens	31276.6	0.0	31276.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	583.1	1.9
10°-20°	1352.5	4.3
20°-30°	1829.1	5.8
30°-40°	2579.0	8.2
40°-50°	4240.9	13.6
50°-60°	6573.7	21.0
60°-70°	8523.3	27.3
70°-80°	4891.1	15.6
80°-90°	703.7	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°	31276.6	100.0
0°-180°	31276.6	100.0



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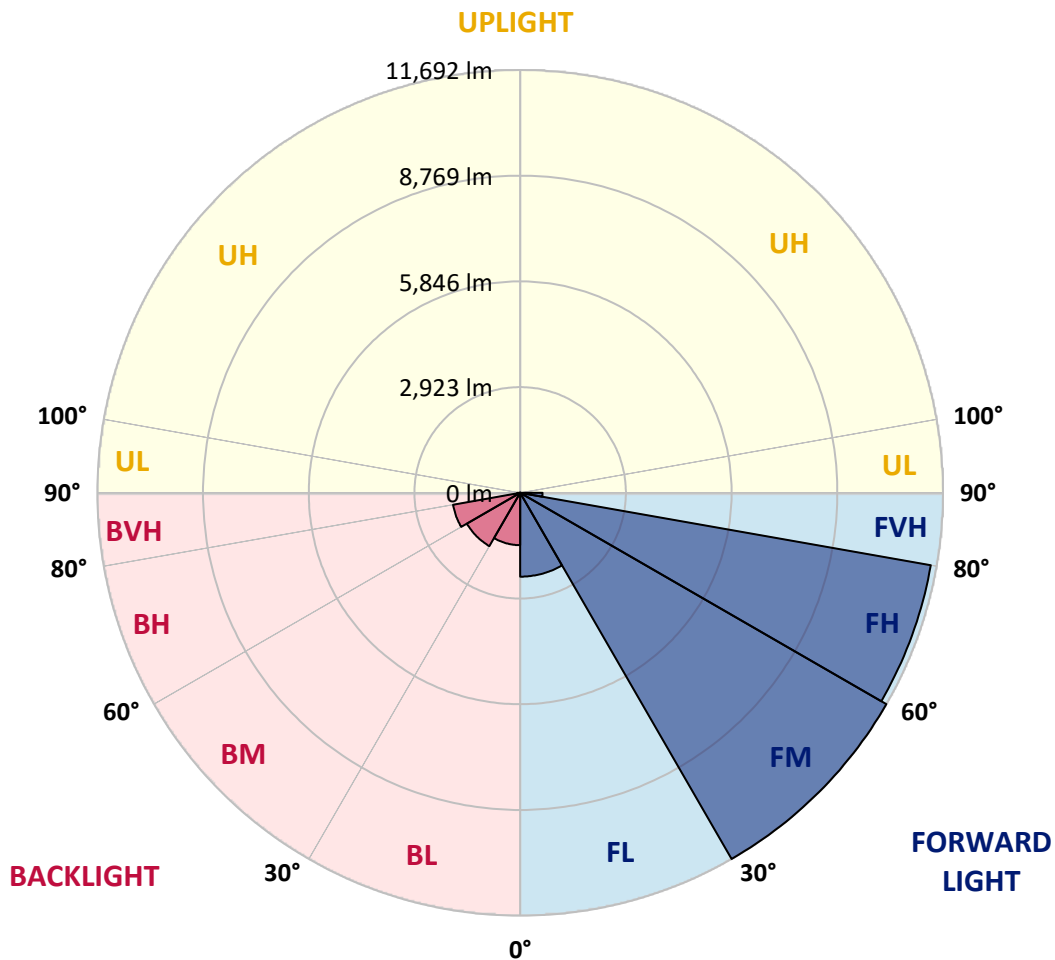
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2318.1	7.4			
FM	(30°-60°)	11691.7	37.4			
FH	(60°-80°)	11530.0	36.9			G4/12000
FVH	(80°-90°)	619.8	2.0			G4/750
BL	(0°-30°)	1446.6	4.6	B3/2500		
BM	(30°-60°)	1702.0	5.4	B2/2500		
BH	(60°-80°)	1884.5	6.0	B3/2500		G3/2500
BVH	(80°-90°)	83.9	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°	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5
2.5°	6623.7	6676.9	6676.9	6715.6	6750.4	6779.0	6803.5	6803.5	6803.5	6787.0	6772.8
5°	5927.0	5998.5	6008.7	6106.7	6235.4	6392.8	6568.4	6723.9	6754.4	6811.7	6834.0
7.5°	5442.8	5465.2	5504.1	5571.4	5702.2	5896.2	6172.2	6519.5	6603.2	6783.1	6877.0
10°	5099.5	5117.9	5150.6	5218.0	5336.6	5512.2	5783.9	6235.4	6374.4	6693.1	6879.1
12.5°	4848.3	4862.6	4893.1	4954.5	5075.0	5232.3	5510.2	5980.1	6151.8	6603.2	6907.7
15°	4652.0	4676.7	4701.1	4760.4	4883.1	5034.1	5316.1	5794.1	5980.1	6531.7	6960.8
17.5°	4574.4	4586.7	4590.7	4621.4	4731.8	4885.0	5167.0	5663.5	5855.4	6474.4	7001.7
20°	4623.6	4625.5	4584.6	4564.2	4627.5	4768.5	5042.4	5565.3	5761.5	6423.5	7017.9
22.5°	4838.0	4838.0	4731.8	4641.9	4598.9	4686.7	4958.5	5497.9	5710.4	6384.7	7017.9
25°	5246.6	5228.3	5062.7	4885.0	4695.0	4658.3	4905.4	5455.0	5671.5	6364.3	6991.4
27.5°	5783.9	5767.6	5557.2	5293.6	4950.4	4719.6	4887.0	5420.3	5632.8	6333.5	6934.2
30°	6437.8	6423.5	6184.4	5839.2	5332.4	4913.6	4930.0	5395.8	5602.2	6282.5	6838.2
32.5°	7089.5	7081.3	6891.3	6537.8	5859.6	5242.6	5042.4	5391.7	5585.8	6221.2	6721.7
35°	7745.3	7745.3	7628.8	7330.5	6568.4	5736.9	5277.2	5467.4	5616.5	6188.5	6621.6
37.5°	8713.8	8674.9	8458.3	8149.8	7461.4	6378.4	5657.3	5626.7	5734.9	6243.6	6588.9
40°	10213.3	10101.0	9559.5	9040.6	8435.9	7199.8	6213.0	5935.2	6000.5	6431.6	6666.6
42.5°	11782.4	11604.7	10887.5	10058.1	9443.2	8213.1	6942.4	6435.7	6433.6	6795.3	6913.8
45°	13128.8	13037.0	12260.5	11208.4	10593.3	9353.2	7863.8	7179.4	7105.7	7359.1	7389.9
47.5°	13911.3	13850.0	13382.2	12426.0	11958.1	10699.6	9032.5	8211.2	8072.2	8223.4	8176.4
50°	13694.8	13754.0	13619.1	13130.9	13425.1	12591.5	10521.8	9624.9	9361.5	9512.5	9398.2
52.5°	12554.8	12714.1	12834.5	12928.6	14268.8	15122.9	12393.3	11390.2	11171.5	11145.0	11034.6
55°	10501.5	10754.8	11134.8	11825.3	14042.1	17155.8	15662.2	13525.2	13206.5	13038.9	13081.8
57.5°	7146.6	7530.8	8350.0	9663.8	12863.2	18022.0	20496.2	16283.4	15743.9	15147.3	15286.4
60°	3937.0	4257.9	5232.3	6556.2	10172.5	17893.3	24780.5	20765.9	19068.0	17486.7	17772.7
62.5°	2547.7	2617.2	3342.5	4478.4	6243.6	15797.1	27160.8	28257.8	24660.0	20571.8	20974.3
65°	2047.2	2096.2	2451.7	3612.1	4349.7	10162.3	27267.0	36029.8	33657.8	24764.1	24776.4
67.5°	2000.2	2022.6	2229.0	3038.1	4080.1	5532.7	23569.0	39094.4	39643.9	29712.5	27320.1
68°	2028.7	2055.3	2263.8	2944.1	4078.0	5099.5	21783.3	39047.3	39989.2	30539.9	27320.1
70°	1789.7	1822.5	2308.6	3046.2	3904.4	4384.5	14916.5	36973.7	38489.7	32442.1	25922.7
72.5°	935.7	909.1	1142.1	2404.7	4394.6	4568.3	7880.1	30889.3	32658.6	30045.5	22396.3
75°	729.5	664.0	639.5	950.0	3865.5	4737.9	4576.6	21954.9	23291.2	21658.7	14969.6
77.5°	686.4	606.8	559.9	561.8	1701.9	4930.0	3702.0	12920.5	12920.5	10331.9	4776.7
80°	551.6	478.1	447.4	510.8	821.3	4543.8	3863.5	5888.2	5021.9	2670.3	1315.7
82.5°	363.7	324.8	326.9	414.7	623.1	3034.0	4474.3	2907.3	2184.1	1183.0	774.3
85°	230.9	198.2	220.7	290.1	465.8	1352.5	4429.4	2020.6	1446.5	664.0	386.1
87.5°	116.5	89.9	110.4	151.3	284.0	388.2	3646.8	1804.1	1072.6	275.8	210.5
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°	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5	6805.5
2.5°	6772.8	6727.8	6705.4	6668.6	6623.7	6578.7	6548.1	6533.8	6525.6	6529.7	6527.7
5°	6821.8	6762.6	6666.6	6529.7	6388.7	6239.6	6125.2	6037.3	5982.2	5965.8	5961.7
7.5°	6858.6	6772.8	6593.0	6343.8	6102.6	5841.2	5618.4	5440.7	5320.2	5264.9	5263.0
10°	6852.5	6742.2	6458.2	6090.4	5736.9	5352.8	5003.5	4705.2	4488.7	4384.5	4380.3
12.5°	6858.6	6707.4	6292.7	5794.1	5287.5	4737.9	4218.9	3755.1	3432.4	3279.1	3273.0
15°	6883.2	6670.6	6123.1	5463.2	4762.4	3986.0	3244.5	2662.1	2367.9	2267.7	2267.7
17.5°	6881.0	6609.3	5927.0	5079.1	4139.3	3099.3	2214.6	1855.1	1826.5	1918.5	1932.8
20°	6840.2	6511.3	5673.7	4623.6	3407.9	2145.2	1501.7	1450.6	1679.5	1932.8	1961.3
22.5°	6777.0	6384.7	5381.4	4094.4	2555.9	1397.4	1158.4	1236.0	1546.6	1861.2	1906.2
25°	6689.1	6231.4	5046.3	3479.4	1699.8	1005.1	966.4	1062.4	1281.1	1491.5	1524.1
27.5°	6560.4	6037.3	4680.6	2813.3	1084.8	827.4	841.8	909.1	1003.1	1093.0	1111.3
30°	6398.9	5810.5	4282.3	2075.8	823.4	739.5	764.2	805.0	845.8	903.0	915.3
32.5°	6235.4	5579.7	3867.6	1426.1	719.2	692.6	717.1	739.5	774.3	813.1	821.3
35°	6088.4	5365.1	3440.6	995.1	674.2	662.0	674.2	688.6	723.3	762.1	766.1
37.5°	5982.2	5189.4	2995.2	786.5	647.7	635.5	641.6	647.7	688.6	745.7	751.8
40°	5967.8	5073.0	2543.7	706.9	627.2	610.9	606.8	610.9	664.0	729.5	735.6
42.5°	6106.7	5079.1	2102.3	674.2	610.9	592.5	576.2	584.3	631.3	682.5	686.4
45°	6435.7	5222.1	1720.3	659.9	596.5	582.3	557.8	561.8	584.3	610.9	615.0
47.5°	7016.0	5534.7	1428.1	651.7	584.3	572.1	541.4	529.2	531.2	545.5	545.5
50°	7943.4	6057.8	1250.4	643.5	574.1	551.6	516.9	492.4	486.2	494.4	496.5
52.5°	9326.7	6954.7	1164.6	627.2	555.7	525.1	486.2	461.7	451.6	459.7	459.7
55°	11196.2	8386.8	1123.7	604.8	533.3	492.4	457.7	437.2	429.1	435.2	435.2
57.5°	13327.0	10248.1	1193.1	574.1	504.7	457.7	433.1	418.8	412.7	418.8	420.8
60°	15858.4	12683.5	1671.2	535.3	473.9	426.9	412.7	404.5	400.4	406.6	406.6
62.5°	19223.3	15923.8	2586.5	504.7	441.3	398.4	394.3	390.3	386.1	392.2	392.2
65°	22856.0	18872.0	2662.1	486.2	412.7	373.8	376.0	376.0	371.8	377.9	377.9
67.5°	24012.4	18616.5	1487.3	463.8	377.9	349.4	357.5	357.5	355.5	361.6	359.6
68°	23767.1	18212.0	1295.3	457.7	371.8	343.2	351.4	353.5	351.4	357.5	355.5
70°	21940.7	15989.1	852.0	423.0	345.3	322.9	335.1	337.1	335.1	343.2	341.2
72.5°	18111.9	11992.9	629.3	369.9	312.6	296.2	308.5	310.6	312.6	320.7	318.7
75°	11502.5	6623.7	496.5	314.6	279.9	265.6	277.8	284.0	288.1	300.4	294.2
77.5°	3150.4	2010.4	402.5	267.6	241.1	234.9	243.1	251.3	255.3	269.7	259.5
80°	1103.3	888.8	335.1	226.8	200.3	198.2	206.4	214.4	218.6	230.9	218.6
82.5°	670.1	580.2	267.6	177.8	157.4	155.2	165.5	173.6	177.8	177.8	169.6
85°	349.4	306.5	196.1	124.7	108.2	102.1	120.5	130.8	132.8	130.8	124.7
87.5°	196.1	173.6	104.3	59.2	49.0	51.1	63.4	77.7	83.8	81.7	77.7
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)