

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: P195671

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195671
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32943 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G5

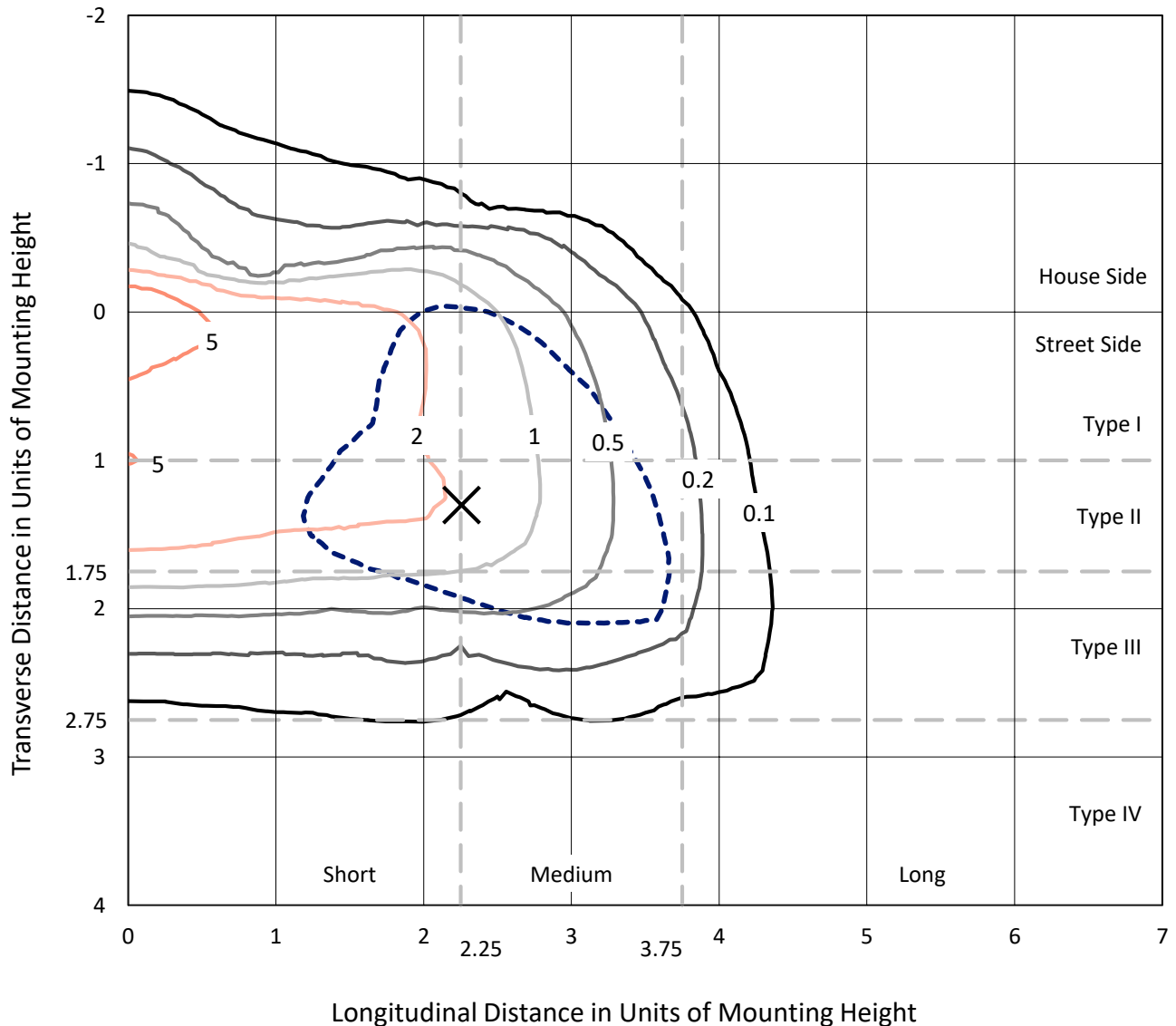
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

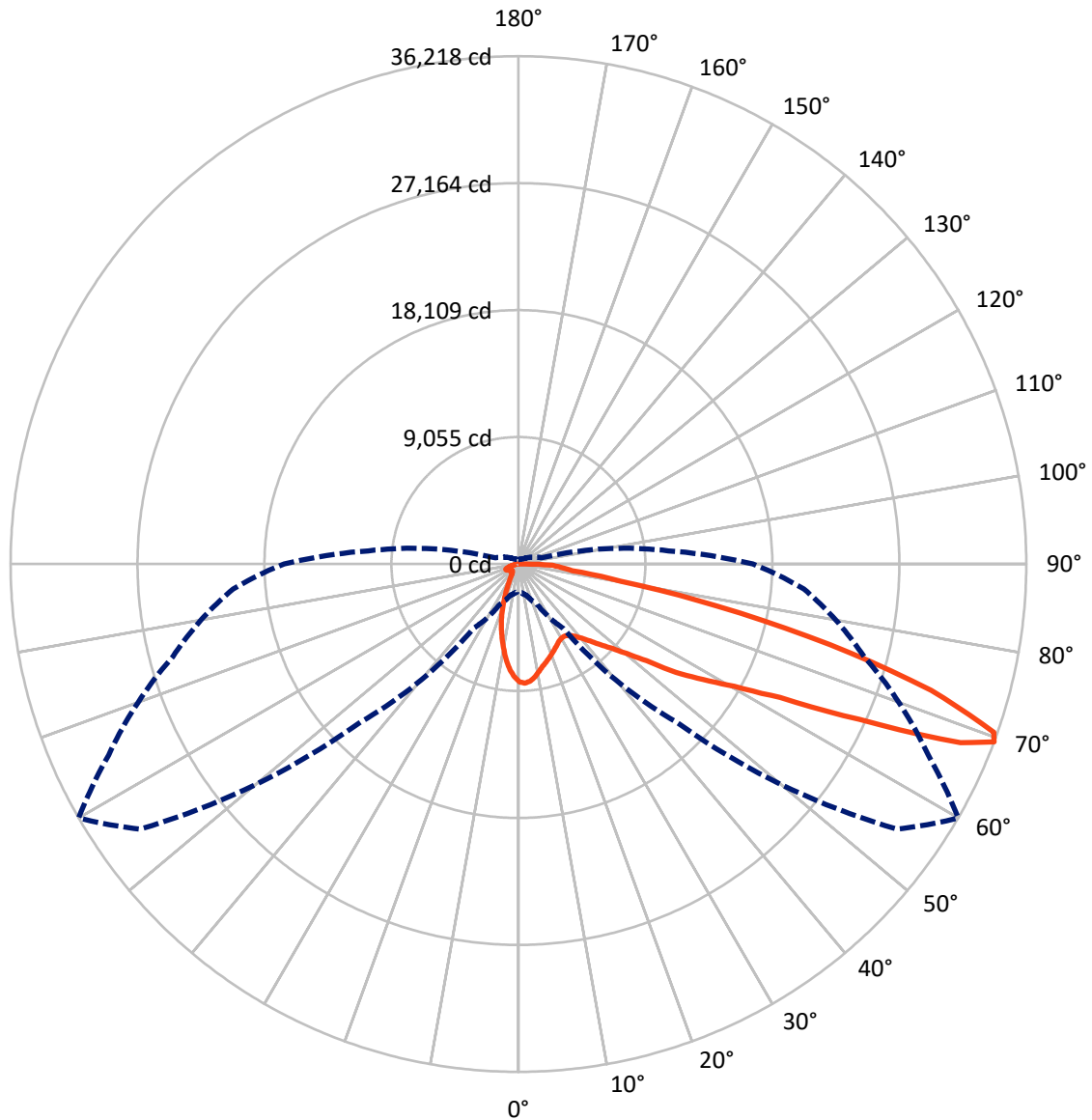
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.3 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4698.8	0.0	4698.8
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	28244.2	0.0	28244.2
	% Fixture	85.7	0.0	85.7
Total	Lumens	32943.0	0.0	32943.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	713.1	2.2
10°-20°	1526.8	4.6
20°-30°	1947.7	5.9
30°-40°	2680.2	8.1
40°-50°	4341.4	13.2
50°-60°	6813.7	20.7
60°-70°	9083.8	27.6
70°-80°	5052.7	15.3
80°-90°	783.7	2.4
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°	32943.0	100.0
0°-180°	32943.0	100.0

Coefficient of Utilization



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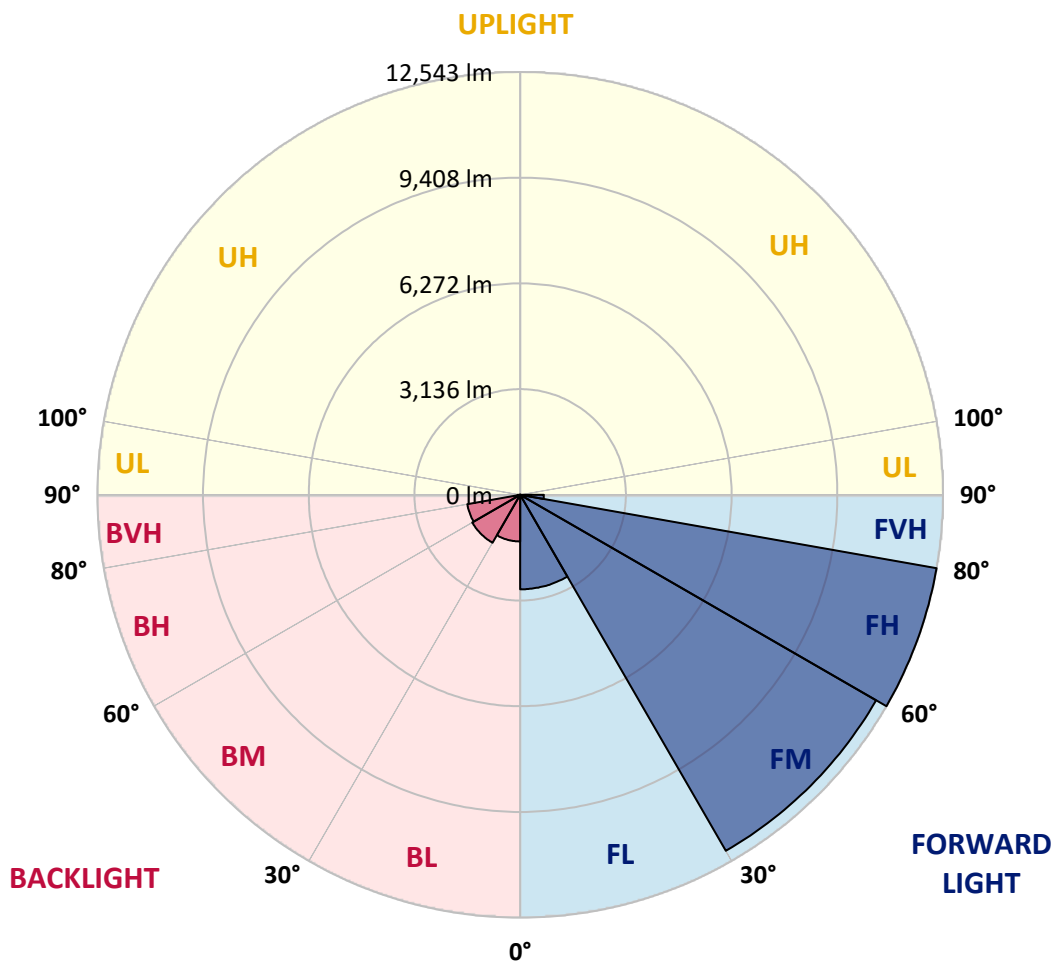
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2802.8	8.5			
FM	(30°-60°)	12193.8	37.0			
FH	(60°-80°)	12543.4	38.1			G5
FVH	(80°-90°)	704.2	2.1			G4/750
BL	(0°-30°)	1384.7	4.2	B3/2500		
BM	(30°-60°)	1641.5	5.0	B2/2500		
BH	(60°-80°)	1593.1	4.8	B3/2500		G3/2500
BVH	(80°-90°)	79.4	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G5

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5
2.5°	8629.4	8652.7	8652.7	8633.7	8623.1	8561.8	8525.9	8500.6	8456.2	8373.8	8299.9
5°	8321.0	8365.4	8384.4	8392.8	8447.8	8428.7	8430.9	8414.0	8375.9	8287.2	8166.8
7.5°	7754.9	7763.3	7797.1	7854.2	7987.2	8080.2	8156.2	8171.0	8162.6	8097.1	7928.1
10°	7197.2	7212.0	7252.1	7349.3	7476.0	7609.1	7773.9	7841.5	7892.2	7871.1	7657.7
12.5°	6734.5	6736.7	6781.0	6893.0	7034.5	7201.4	7425.3	7530.9	7651.4	7699.9	7461.2
15°	6288.8	6318.4	6360.6	6495.8	6671.2	6882.4	7140.1	7285.9	7444.3	7583.8	7309.1
17.5°	5950.8	5974.1	5999.4	6111.4	6314.2	6578.2	6897.2	7053.5	7262.7	7476.0	7152.8
20°	5764.9	5773.4	5754.4	5809.3	5980.4	6265.6	6635.3	6823.3	7072.5	7372.5	6992.3
22.5°	5726.9	5726.9	5657.2	5646.6	5722.7	5963.5	6364.9	6595.1	6899.3	7300.7	6848.6
25°	5904.3	5891.7	5760.7	5640.3	5612.8	5735.4	6107.1	6390.2	6751.4	7298.6	6740.9
27.5°	6240.2	6223.3	6060.7	5857.9	5682.5	5629.7	5908.6	6198.0	6635.3	7370.4	6686.0
30°	6658.5	6652.2	6487.4	6233.9	5944.5	5672.0	5830.4	6098.7	6557.1	7503.5	6683.8
32.5°	7116.9	7087.3	6985.9	6732.4	6356.4	5906.5	5876.9	6102.9	6536.0	7697.8	6732.4
35°	7604.9	7583.8	7558.4	7302.8	6880.3	6320.5	6081.8	6248.7	6639.5	7968.2	6869.7
37.5°	8226.0	8202.7	8245.0	7966.1	7503.5	6863.4	6428.2	6540.2	6850.7	8361.1	7125.4
40°	9330.8	9263.2	9144.9	8716.0	8230.2	7528.8	6928.9	6945.8	7212.0	8887.2	7535.2
42.5°	11145.4	10927.8	10342.6	9554.7	8997.0	8302.0	7581.6	7501.4	7710.5	9582.2	8130.9
45°	12964.2	12719.2	11730.5	10469.4	9791.3	9132.2	8388.6	8196.4	8331.6	10391.2	8897.7
47.5°	14138.7	14018.3	12903.0	11384.1	10623.6	10036.3	9311.8	8994.9	9092.1	11308.0	9844.1
50°	14483.1	14379.6	13502.9	12100.2	11409.4	11128.5	10454.6	10034.2	10051.1	12379.1	10978.5
52.5°	14225.4	14183.1	13602.2	12543.8	12131.9	12279.8	12036.8	11451.7	11312.3	13553.6	12208.0
55°	13881.0	13895.8	13671.9	12989.6	12867.0	13352.9	14107.1	13636.0	13044.5	14776.7	13488.1
57.5°	12797.3	12807.9	13395.2	13838.8	14269.7	14857.0	15718.9	15520.3	14831.6	16097.0	14922.5
60°	10304.6	10387.0	11694.6	13663.4	15873.1	17820.8	18032.0	17689.8	16732.9	17618.0	16787.8
62.5°	7362.0	7435.9	8950.5	11861.5	15685.1	21175.4	22303.4	20943.0	19312.2	19893.1	19411.5
65°	3867.9	3855.3	5027.7	8196.4	13211.4	21952.8	29033.8	26718.5	23657.5	23021.7	21946.4
67.5°	2161.1	2230.8	2684.9	4134.1	8610.4	19320.6	33332.6	34015.0	29699.2	25503.8	21836.6
69°	1998.4	2021.6	2325.8	3196.2	5612.8	15940.7	32963.0	36218.3	32246.8	25514.4	20429.7
70°	1941.4	1966.7	2243.4	2944.8	4715.0	13061.4	31617.3	35960.5	32865.8	24948.2	19149.5
72.5°	1740.7	1774.5	2042.8	2646.9	3973.6	6732.4	25467.9	30778.7	29771.0	21804.9	14848.5
75°	1485.1	1542.1	1947.7	2627.9	3764.4	4279.9	16984.2	22930.8	22157.7	15594.2	8424.5
77.5°	614.7	621.1	851.3	1924.5	3950.3	4096.1	9128.0	14525.3	12858.6	6838.1	2537.1
80°	428.8	420.4	424.6	561.9	3187.7	4123.5	4683.3	7387.3	5741.7	1804.0	1187.2
82.5°	361.2	357.0	373.9	352.8	1079.5	4679.1	3916.5	3851.0	2704.0	971.7	566.1
85°	238.7	232.4	306.3	321.1	513.3	3715.8	4212.3	3027.2	2015.3	519.7	240.8
87.5°	116.2	118.3	175.3	217.6	272.5	1176.6	4034.8	2393.4	1556.9	226.0	97.2
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°	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5	8405.5
2.5°	8270.3	8206.9	8149.9	8078.1	8023.2	7976.7	7913.3	7911.2	7900.6	7915.4	7919.6
5°	8086.5	7980.9	7820.4	7640.8	7514.0	7347.2	7184.5	7129.6	7068.3	7062.0	7081.0
7.5°	7809.8	7645.0	7370.4	7095.8	6821.2	6540.2	6274.0	6138.8	6007.9	5967.7	5986.7
10°	7501.4	7292.2	6871.9	6424.0	6037.4	5619.2	5213.6	4951.6	4712.9	4611.5	4636.9
12.5°	7260.6	6994.4	6402.9	5822.0	5243.1	4643.2	4108.8	3591.2	3200.4	3025.1	3035.6
15°	7053.5	6713.4	5963.5	5190.3	4465.8	3644.0	2902.5	2302.6	1960.4	1833.6	1829.4
17.5°	6829.6	6417.7	5505.1	4603.1	3663.0	2646.9	1943.5	1588.6	1453.4	1411.1	1411.1
20°	6590.9	6113.5	5025.6	3963.0	2818.0	1848.4	1461.8	1324.5	1273.8	1261.1	1259.0
22.5°	6369.1	5815.6	4543.9	3280.7	2038.5	1402.7	1244.2	1191.4	1183.0	1193.5	1193.5
25°	6193.8	5553.7	4055.9	2562.4	1483.0	1174.5	1106.9	1100.6	1132.3	1170.3	1176.6
27.5°	6062.8	5319.2	3574.3	1871.6	1166.1	1022.4	999.2	1026.7	1100.6	1176.6	1191.4
30°	5971.9	5118.5	2997.6	1345.6	971.7	895.7	906.2	954.8	1066.8	1183.0	1214.7
32.5°	5931.8	4955.9	2416.7	1033.0	830.2	788.0	815.4	878.8	995.0	1111.2	1149.2
35°	5969.8	4837.6	1880.1	857.7	726.7	695.0	726.7	792.2	868.2	925.3	948.5
37.5°	6107.1	4795.3	1415.4	760.5	659.1	627.4	652.8	697.1	730.9	752.0	762.6
40°	6396.6	4839.7	1109.0	709.8	621.1	585.2	591.5	612.6	635.9	652.8	654.9
42.5°	6857.1	4985.4	986.5	690.8	597.8	551.4	540.8	555.6	580.9	604.2	608.4
45°	7469.7	5228.4	973.8	697.1	587.3	523.9	502.8	517.6	551.4	589.4	595.7
47.5°	8261.9	5612.8	1033.0	730.9	593.6	509.1	477.4	492.2	536.6	587.3	595.7
50°	9199.8	6145.2	1142.8	781.6	623.2	509.1	466.9	479.5	526.0	583.0	591.5
52.5°	10304.6	6886.6	1256.9	832.3	665.4	528.1	471.1	469.0	511.2	564.0	574.6
55°	11523.5	7807.7	1366.8	876.7	688.7	553.5	481.6	456.3	490.1	532.3	540.8
57.5°	12957.9	9068.8	1559.0	918.9	701.3	572.5	494.3	443.6	462.6	492.2	498.5
60°	14903.5	10921.5	1932.9	990.7	724.6	580.9	496.4	430.9	428.8	450.0	452.1
62.5°	17440.5	13091.0	2289.9	1075.2	771.1	583.0	488.0	422.5	401.4	407.7	407.7
65°	19244.6	13889.5	2186.4	1147.1	813.3	580.9	479.5	416.2	380.2	369.7	369.7
67.5°	18217.9	12269.2	1856.9	1166.1	817.5	557.7	460.5	401.4	361.2	335.9	335.9
69°	16709.6	10754.6	1704.8	1132.3	783.7	530.2	439.4	386.6	348.6	319.0	319.0
70°	15480.2	9607.5	1611.8	1092.1	743.6	507.0	420.4	371.8	335.9	310.5	308.4
72.5°	11557.3	6411.3	1377.3	942.2	610.5	428.8	367.6	331.7	302.1	285.2	285.2
75°	6098.7	3213.1	1128.1	768.9	471.1	342.2	302.1	278.8	261.9	259.8	257.7
77.5°	1998.4	1453.4	811.2	578.8	346.4	266.2	240.8	226.0	223.9	232.4	232.4
80°	1079.5	868.2	521.8	390.8	240.8	198.6	185.9	183.8	190.1	202.8	202.8
82.5°	523.9	428.8	310.5	240.8	164.8	145.8	145.8	147.9	156.3	171.1	171.1
85°	226.0	202.8	179.6	135.2	101.4	90.8	103.5	114.1	120.4	131.0	135.2
87.5°	107.7	95.1	82.4	52.8	44.4	46.5	54.9	67.6	80.3	88.7	90.8
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)