

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: P196797

Luminaire Tested: **NAV-AF-03-D-UNV-T3-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19224.2 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

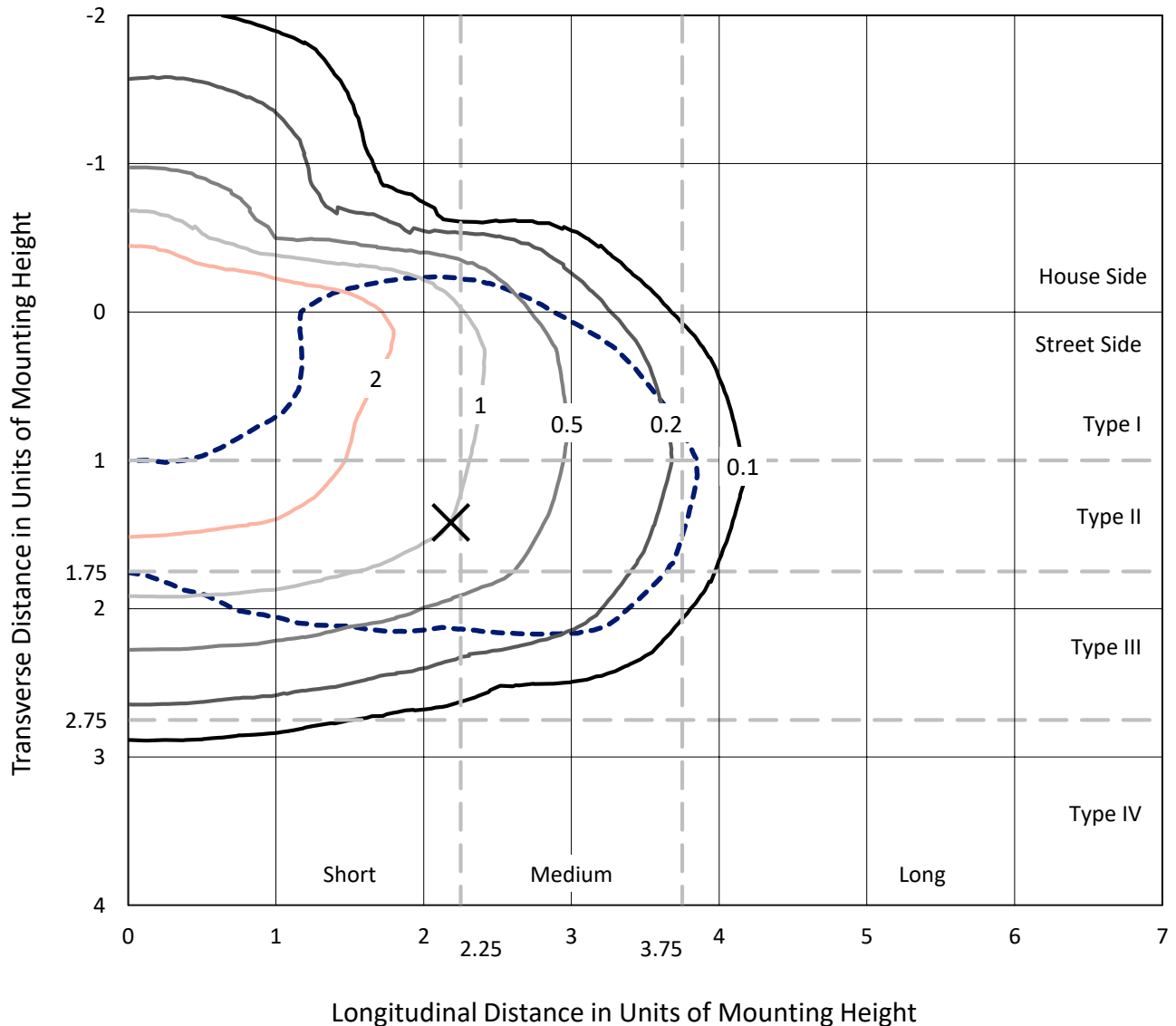
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

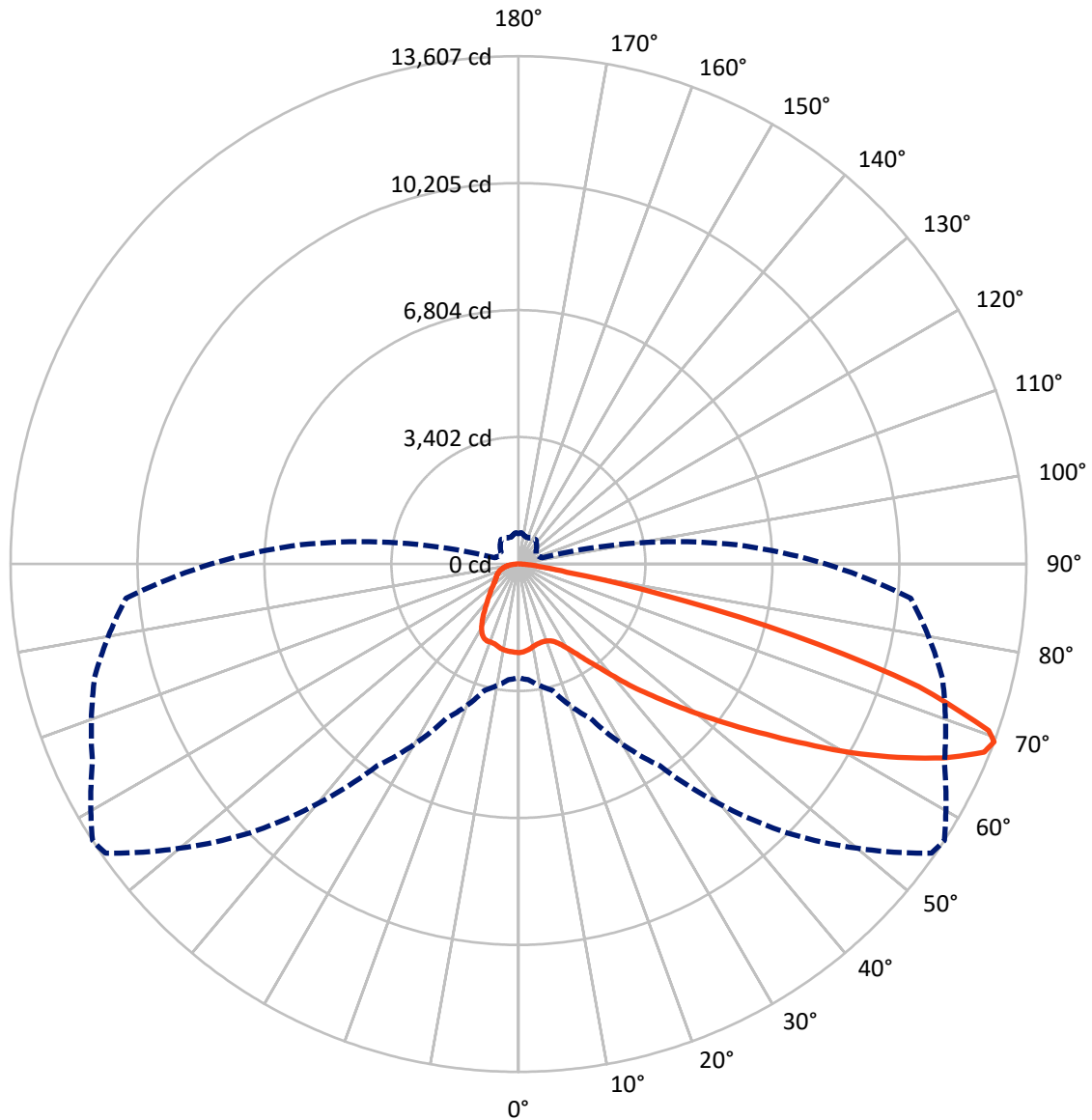
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4242.1	0.0	4242.1
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	14982.1	0.0	14982.1
	% Fixture	77.9	0.0	77.9
Total	Lumens	19224.2	0.0	19224.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.4	1.2
10°-20°	632.3	3.3
20°-30°	1051.8	5.5
30°-40°	1717.5	8.9
40°-50°	2898.8	15.1
50°-60°	4509.2	23.5
60°-70°	5371.5	27.9
70°-80°	2502.4	13.0
80°-90°	318.3	1.7
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°	19224.2	100.0
0°-180°	19224.2	100.0



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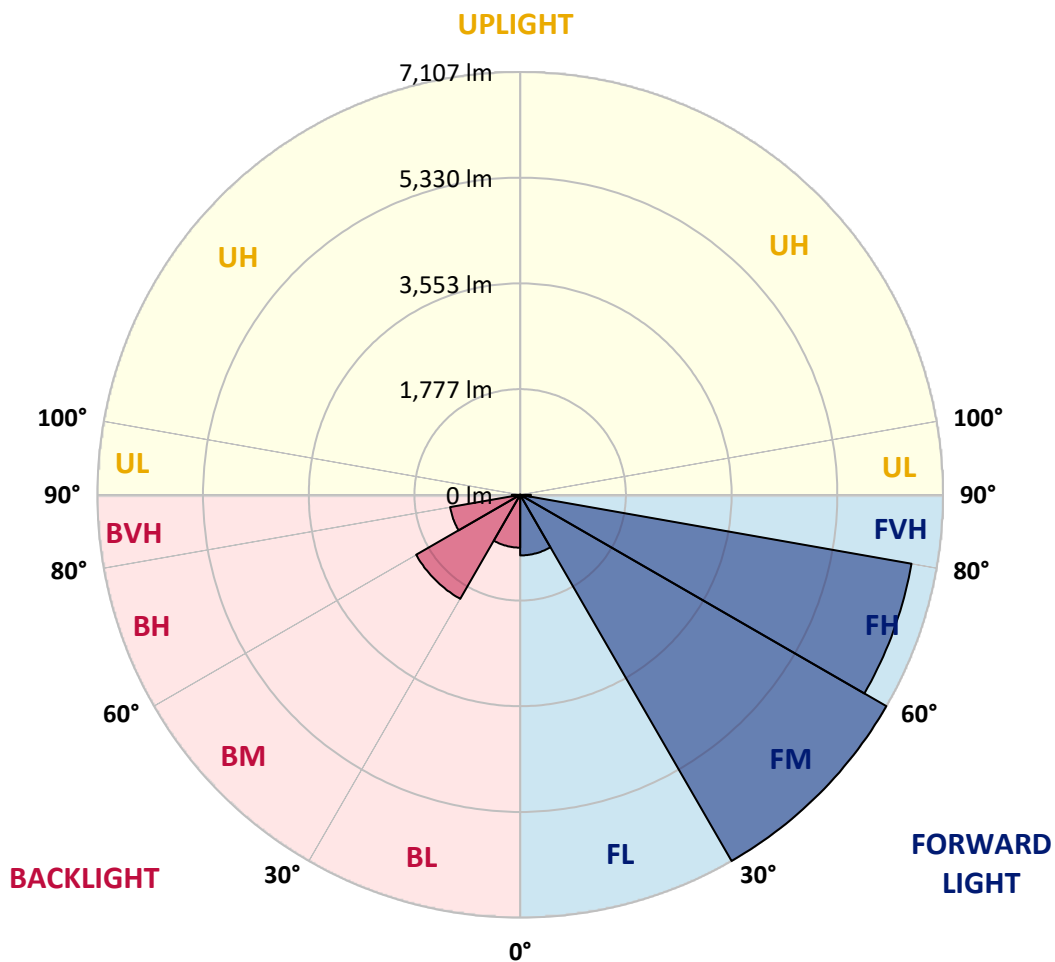
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1018.1	5.3			
FM	(30°-60°)	7106.6	37.0			
FH	(60°-80°)	6678.5	34.7			G3/7500
FVH	(80°-90°)	178.9	0.9			G2/225
BL	(0°-30°)	888.4	4.6	B2/1000		
BM	(30°-60°)	2019.0	10.5	B2/2500		
BH	(60°-80°)	1195.4	6.2	B3/2500		G3/2500
BVH	(80°-90°)	139.4	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3
2.5°	2361.7	2361.7	2367.9	2367.9	2367.9	2365.5	2358.2	2360.5	2355.6	2352.0	2345.8
5°	2313.8	2316.3	2323.6	2326.1	2329.9	2331.0	2331.0	2329.9	2331.0	2331.0	2327.3
7.5°	2247.4	2249.7	2258.4	2263.3	2274.4	2284.3	2289.2	2289.2	2295.3	2300.2	2301.4
10°	2206.7	2206.7	2211.6	2211.6	2220.2	2225.2	2241.2	2240.0	2257.2	2273.1	2280.6
12.5°	2201.8	2201.8	2199.4	2190.7	2185.8	2184.5	2200.6	2203.0	2228.9	2257.2	2270.7
15°	2217.8	2217.8	2210.5	2193.2	2174.7	2166.1	2182.1	2187.1	2215.3	2248.5	2269.6
17.5°	2269.6	2268.2	2252.3	2217.8	2185.8	2172.3	2177.2	2182.1	2207.9	2246.2	2271.9
20°	2383.9	2383.9	2349.5	2286.7	2231.3	2199.4	2192.0	2195.7	2214.1	2249.7	2283.1
22.5°	2584.5	2588.3	2526.7	2423.4	2328.6	2260.9	2231.3	2235.0	2243.6	2278.0	2314.9
25°	2880.0	2870.1	2782.8	2636.2	2488.6	2372.9	2312.6	2316.3	2316.3	2348.3	2386.4
27.5°	3192.5	3195.0	3069.4	2912.0	2717.5	2545.2	2449.1	2448.0	2446.8	2477.5	2518.1
30°	3545.8	3547.0	3401.8	3219.7	2996.9	2776.6	2632.6	2631.3	2620.2	2658.4	2711.4
32.5°	3932.2	3931.0	3762.4	3556.8	3309.5	3059.6	2872.5	2871.4	2862.7	2914.4	2978.4
35°	4360.5	4360.5	4193.2	3939.6	3672.5	3394.3	3177.8	3176.5	3181.5	3251.7	3311.9
37.5°	4876.2	4887.2	4685.5	4377.8	4086.1	3789.4	3537.2	3529.7	3492.8	3611.0	3710.7
40°	5414.1	5444.8	5235.6	4876.2	4561.1	4254.7	3976.5	3971.6	3939.6	4065.1	4226.3
42.5°	5996.1	6066.3	5833.7	5467.0	5123.6	4792.5	4513.2	4499.7	4376.5	4572.2	4824.6
45°	6759.3	6804.7	6467.6	6135.2	5811.6	5433.7	5101.5	5028.7	4905.7	5156.8	5484.2
47.5°	7278.7	7256.5	7046.0	6823.2	6615.2	6253.5	5742.6	5650.4	5500.2	5832.5	6193.2
50°	7601.0	7617.1	7498.9	7487.9	7476.7	7224.4	6466.3	6355.5	6182.0	6575.9	6996.8
52.5°	7814.0	7741.3	7762.4	8013.4	8317.4	8196.7	7284.8	7161.7	6983.2	7377.0	7852.1
55°	7725.4	7629.3	7822.6	8317.4	9032.5	9059.4	8183.2	8056.4	7903.9	8228.8	8881.0
57.5°	7358.6	7406.5	7711.8	8399.9	9521.1	9832.4	9215.8	9086.5	8786.3	9116.1	9858.3
60°	6842.9	6940.1	7406.5	8269.4	9863.2	10434.3	10349.4	10263.2	9746.3	9980.1	10884.7
62.5°	6289.1	6385.1	6958.6	8046.6	9709.4	10967.1	11462.0	11409.0	10806.0	10812.1	11535.7
65°	5470.6	5510.1	6095.9	7438.6	9282.2	11448.4	12575.7	12529.0	11818.8	11522.3	11717.9
67.5°	4131.6	4180.8	4662.1	5871.9	7982.6	11187.5	13465.5	13458.1	12428.0	11785.6	11284.8
69°	3051.1	3111.2	3504.0	4558.7	6600.5	10193.1	13507.4	13607.0	12593.0	11758.5	10552.4
70°	2232.6	2301.4	2664.5	3618.3	5497.7	9095.2	13149.3	13363.4	12530.2	11587.5	9981.3
72.5°	948.9	972.3	1150.7	1633.2	2788.9	5484.2	10770.2	11220.7	11316.6	10382.6	7798.0
75°	594.5	601.8	672.0	838.1	1240.6	2268.2	6974.6	7588.7	8449.0	8055.2	5220.9
77.5°	448.0	454.2	494.7	577.2	770.5	846.8	3235.6	3858.4	4839.3	4738.3	2598.0
80°	343.4	347.1	374.1	419.7	542.8	530.5	1049.9	1319.3	2019.6	1782.1	919.4
82.5°	269.6	270.8	294.1	302.7	379.0	356.9	526.7	587.0	815.9	678.2	449.3
85°	238.7	242.4	265.8	221.6	242.4	215.3	289.2	313.8	433.2	408.6	169.8
87.5°	121.9	128.1	222.8	189.6	121.9	102.1	126.7	136.6	176.0	190.7	82.5
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°	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3	2375.3
2.5°	2347.0	2348.3	2352.0	2358.2	2367.9	2380.2	2395.1	2409.8	2418.5	2424.6	2422.1
5°	2327.3	2328.6	2336.0	2347.0	2359.4	2377.8	2402.4	2420.8	2434.4	2443.0	2441.8
7.5°	2302.7	2306.5	2321.2	2333.4	2350.7	2365.5	2385.1	2402.4	2415.9	2424.6	2423.4
10°	2284.3	2288.0	2306.5	2322.5	2337.2	2339.7	2336.0	2331.0	2329.9	2336.0	2333.4
12.5°	2275.7	2283.1	2300.2	2311.4	2305.2	2281.8	2254.7	2243.6	2240.0	2252.3	2253.5
15°	2278.0	2284.3	2299.1	2291.6	2258.4	2219.0	2204.3	2212.8	2220.2	2227.7	2228.9
17.5°	2284.3	2288.0	2291.6	2264.6	2217.8	2192.0	2187.1	2178.4	2156.2	2144.0	2142.7
20°	2295.3	2300.2	2294.1	2251.1	2209.2	2174.7	2115.7	2062.7	2012.2	1985.2	1974.1
22.5°	2333.4	2337.2	2318.7	2276.9	2212.8	2100.8	1981.5	1890.4	1812.8	1771.1	1755.0
25°	2408.5	2414.7	2388.9	2336.0	2168.6	1972.9	1804.3	1681.2	1583.9	1533.5	1520.1
27.5°	2540.3	2546.4	2518.1	2380.2	2065.2	1801.8	1597.5	1475.6	1392.0	1349.0	1342.7
30°	2737.2	2745.8	2719.9	2379.0	1907.6	1583.9	1395.7	1324.3	1276.2	1246.7	1245.5
32.5°	3010.4	3042.5	2936.6	2337.2	1713.1	1363.7	1243.1	1218.5	1195.1	1175.4	1175.4
35°	3357.4	3432.5	3150.7	2249.7	1499.0	1213.6	1158.1	1134.7	1105.1	1084.3	1081.7
37.5°	3772.1	3889.2	3303.4	2094.7	1314.4	1140.8	1106.5	1068.3	1021.5	980.9	971.1
40°	4342.1	4369.2	3378.4	1842.4	1176.6	1101.6	1058.4	1010.4	951.3	905.9	901.0
42.5°	4914.4	4825.8	3363.6	1571.7	1097.8	1065.9	1009.2	956.2	903.3	865.3	865.3
45°	5565.4	5224.4	3251.7	1299.6	1026.5	1025.2	963.6	913.2	872.6	844.2	838.1
47.5°	6188.2	5582.6	3058.3	1099.0	952.6	984.7	934.1	893.5	856.6	829.5	824.6
50°	6943.9	5997.5	2852.9	958.7	881.1	948.9	921.8	901.0	865.3	818.5	813.6
52.5°	7694.6	6482.4	2694.2	852.9	818.5	920.6	929.2	931.7	898.4	807.3	801.2
55°	8500.7	7000.5	2526.7	770.5	766.8	907.1	946.4	944.0	927.9	809.8	800.0
57.5°	9267.5	7521.1	2276.9	712.6	726.1	893.5	950.1	910.7	882.5	822.1	806.2
60°	9902.6	7951.8	1910.1	672.0	691.7	866.4	925.5	866.4	818.5	819.7	804.9
62.5°	10211.5	8072.4	1460.9	625.2	663.4	822.1	889.8	833.2	788.9	824.6	815.9
65°	9976.4	7729.1	1041.2	582.2	628.9	770.5	868.9	804.9	774.1	849.2	839.3
67.5°	9132.1	6793.7	755.6	544.0	595.7	717.5	829.5	779.0	759.4	867.6	845.5
69°	8234.9	5865.7	654.8	521.8	572.3	689.2	803.7	765.5	748.3	841.9	809.8
70°	7489.0	5150.7	604.3	508.3	552.7	673.2	783.9	756.9	737.2	811.0	772.9
72.5°	5369.8	3329.1	508.3	467.6	501.0	637.5	740.9	724.9	695.3	732.2	707.7
75°	3244.2	1737.8	432.0	425.8	446.8	588.3	690.4	670.8	641.3	644.9	632.6
77.5°	1490.4	802.4	361.8	376.6	390.2	526.7	628.9	606.7	579.7	569.8	571.1
80°	653.5	468.9	302.7	321.2	328.7	473.8	562.4	537.9	508.3	561.3	520.6
82.5°	353.2	271.9	236.3	248.6	269.6	412.4	488.6	456.6	428.3	498.4	402.4
85°	142.8	139.1	159.9	172.3	187.1	296.6	408.6	375.5	340.9	305.3	297.8
87.5°	61.5	66.4	78.7	83.7	99.7	184.6	274.5	240.1	241.3	206.7	203.1
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)