

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: P195418

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195418
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-T4W-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19479 lumens
Efficiency: N/A
Efficacy: 113.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

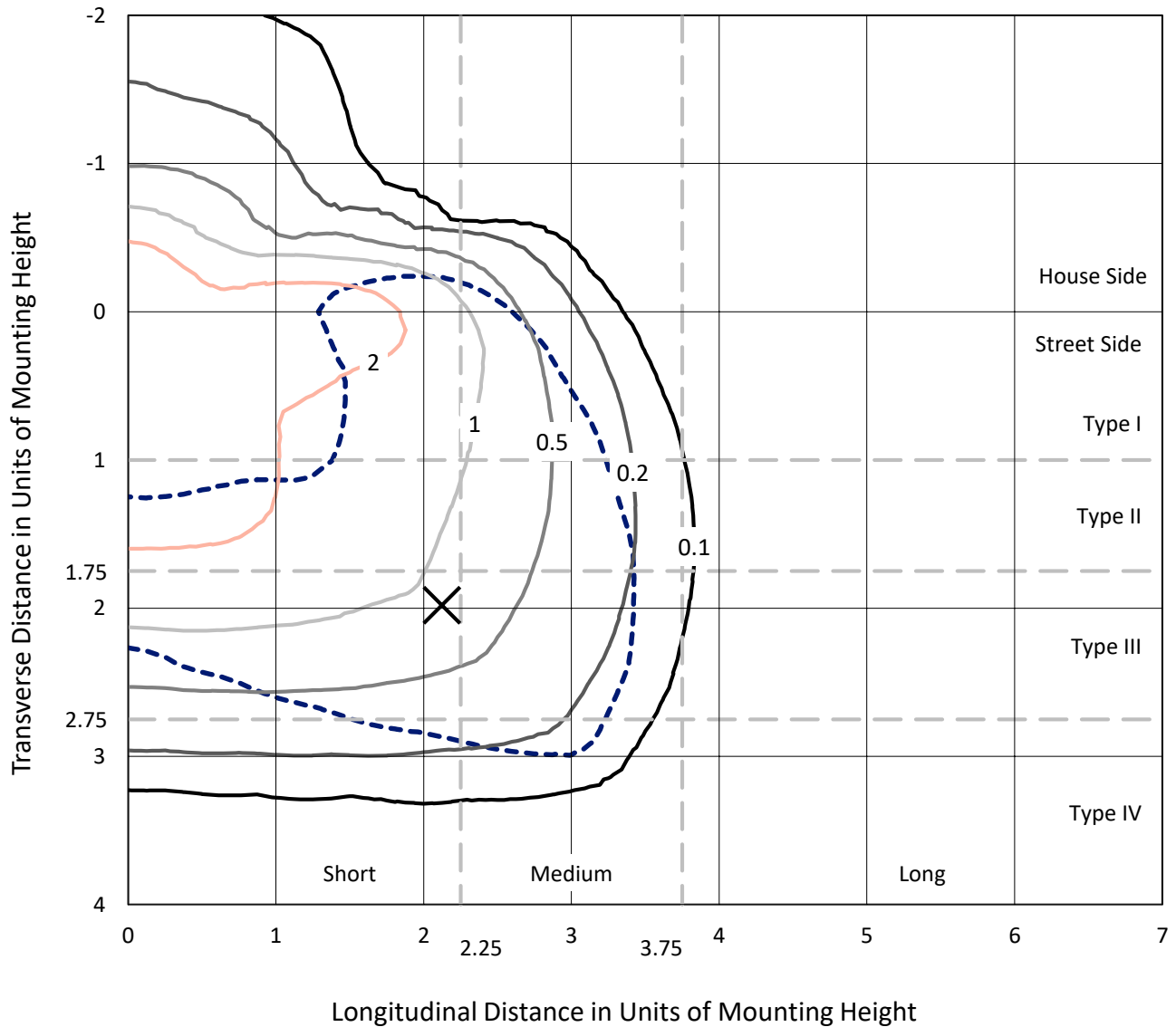
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

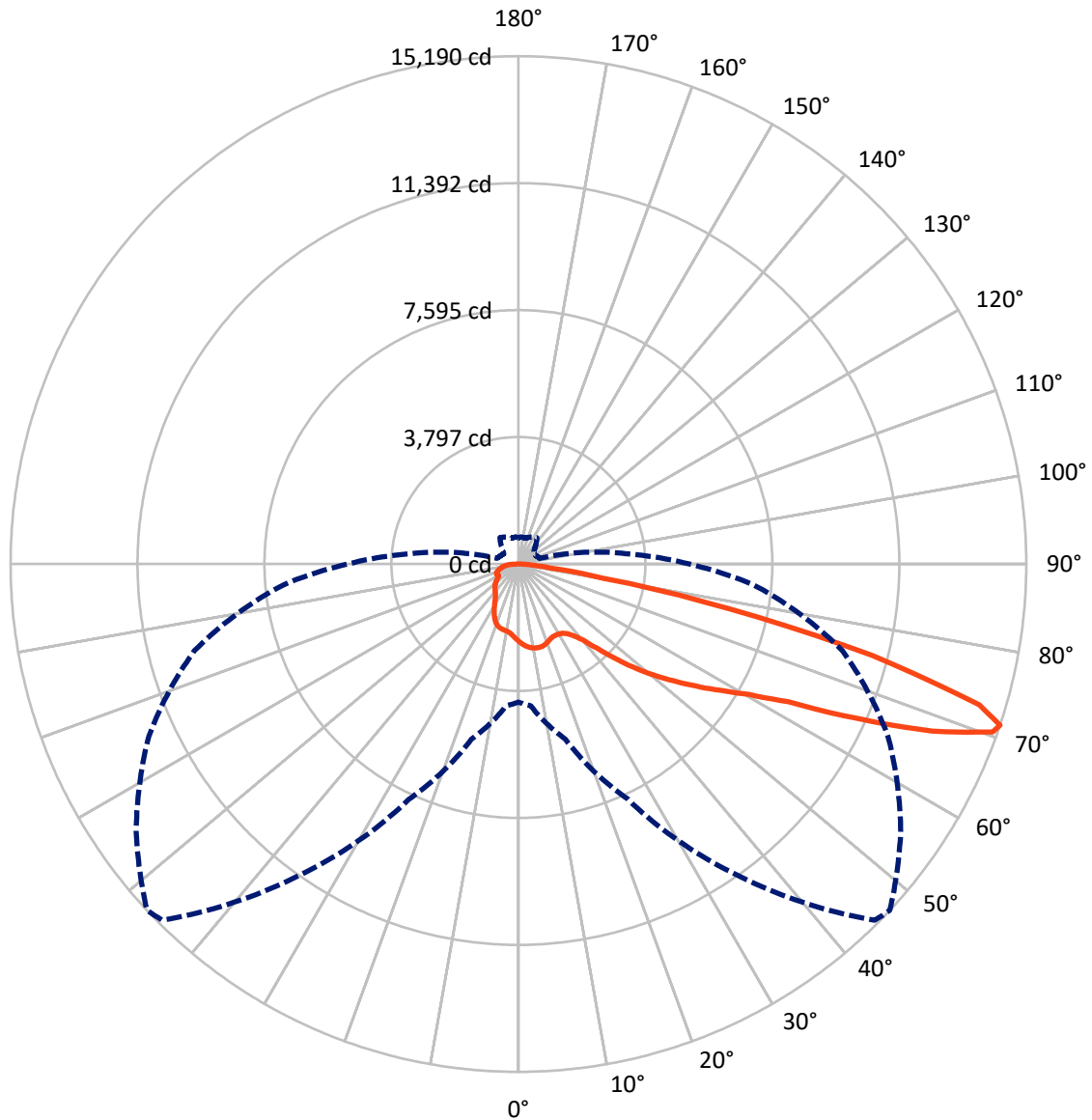
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4174.6	0.0	4174.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	15304.4	0.0	15304.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	19479.0	0.0	19479.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.2	1.1
10°-20°	647.0	3.3
20°-30°	961.5	4.9
30°-40°	1380.5	7.1
40°-50°	2447.7	12.6
50°-60°	4188.4	21.5
60°-70°	5946.1	30.5
70°-80°	3256.6	16.7
80°-90°	429.9	2.2
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°	19479.0	100.0
0°-180°	19479.0	100.0



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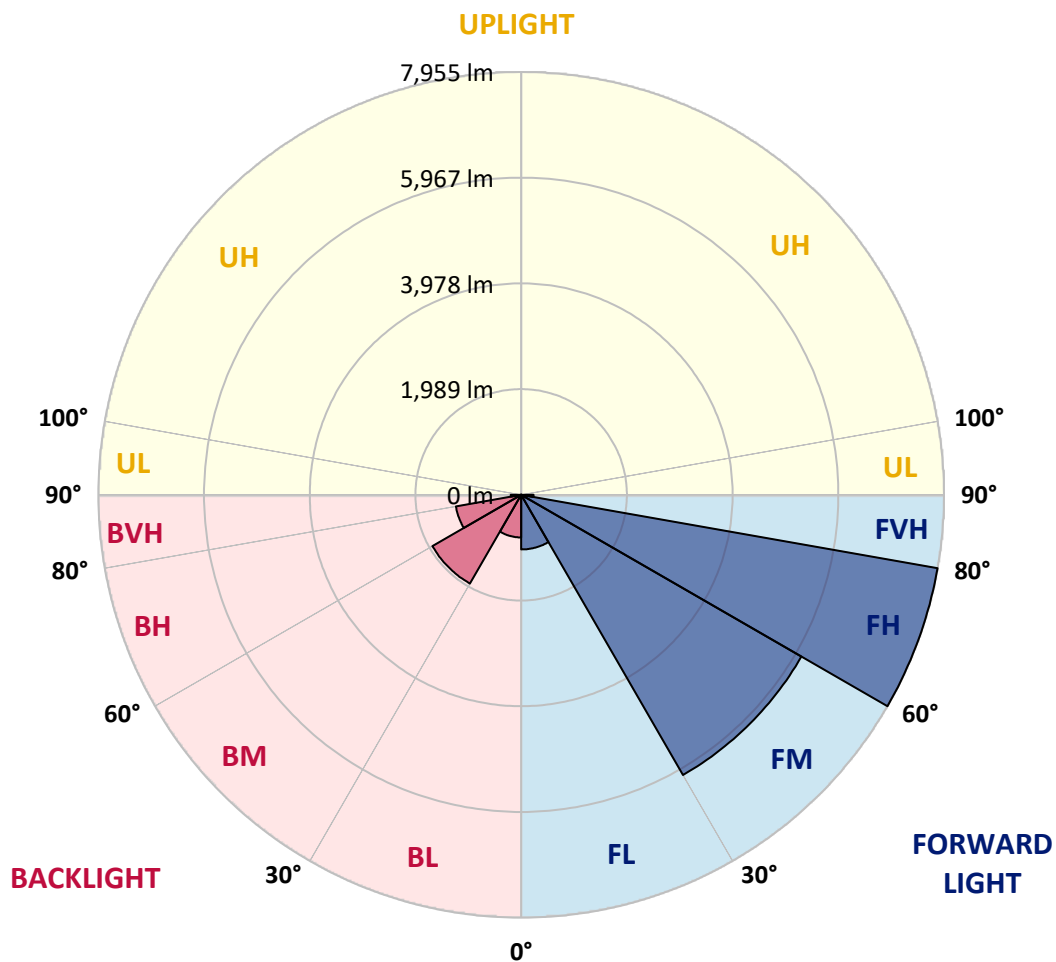
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1028.0	5.3			
FM	(30°-60°)	6087.8	31.3			
FH	(60°-80°)	7955.4	40.8			G4/12000
FVH	(80°-90°)	233.2	1.2			G3/500
BL	(0°-30°)	801.7	4.1	B2/1000		
BM	(30°-60°)	1928.9	9.9	B2/2500		
BH	(60°-80°)	1247.3	6.4	B3/2500		G3/2500
BVH	(80°-90°)	196.7	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4
2.5°	2457.8	2452.7	2455.2	2446.4	2424.9	2402.2	2402.2	2378.2	2353.0	2327.7	2300.0
5°	2610.5	2602.9	2596.6	2568.8	2527.2	2480.5	2472.9	2424.9	2373.2	2321.4	2270.9
7.5°	2738.0	2730.4	2711.5	2661.0	2600.4	2531.0	2522.1	2459.0	2390.9	2318.9	2248.2
10°	2828.9	2823.8	2787.2	2722.9	2652.2	2570.1	2555.0	2490.6	2409.8	2320.2	2230.5
12.5°	2879.4	2871.8	2827.6	2751.9	2668.6	2585.3	2570.1	2508.3	2416.1	2317.6	2212.9
15°	2859.2	2855.4	2813.7	2736.7	2653.4	2581.5	2568.8	2505.7	2412.3	2308.8	2196.5
17.5°	2773.3	2782.2	2749.4	2673.6	2605.5	2555.0	2541.1	2481.7	2393.4	2287.3	2171.2
20°	2654.7	2664.8	2648.4	2571.4	2532.2	2499.4	2491.8	2443.9	2361.8	2255.8	2140.9
22.5°	2528.5	2537.3	2538.5	2466.6	2454.0	2441.4	2435.0	2401.0	2334.1	2236.9	2120.7
25°	2441.4	2451.4	2454.0	2390.9	2398.4	2402.2	2401.0	2377.0	2329.0	2236.9	2123.2
27.5°	2418.6	2423.7	2421.2	2363.1	2377.0	2398.4	2399.7	2394.6	2349.2	2262.1	2158.6
30°	2496.9	2499.4	2467.9	2380.8	2394.6	2422.4	2423.7	2421.2	2392.1	2327.7	2238.1
32.5°	2835.2	2832.7	2724.1	2499.4	2451.4	2461.5	2465.3	2488.1	2490.6	2436.3	2353.0
35°	3350.2	3349.0	3222.7	2839.0	2613.0	2560.0	2565.1	2600.4	2632.0	2595.4	2547.4
37.5°	3917.0	3920.8	3843.8	3323.7	2961.4	2740.5	2735.5	2762.0	2818.8	2831.4	2837.7
40°	4545.7	4564.6	4560.8	3880.4	3450.0	3048.5	2998.0	2967.7	3077.6	3147.0	3236.6
42.5°	5263.9	5258.9	5261.4	4491.4	4007.9	3533.3	3439.9	3298.5	3426.0	3545.9	3742.8
45°	5881.2	5901.4	5916.6	5141.5	4632.8	4087.4	3992.8	3735.2	3850.1	4029.4	4329.8
47.5°	6502.3	6466.9	6494.7	5864.8	5328.3	4719.9	4597.4	4250.3	4357.6	4610.0	5067.0
50°	7225.6	7209.2	7082.9	6809.0	6169.0	5361.1	5200.8	4788.0	4944.6	5281.6	5977.1
52.5°	7874.4	7786.1	7687.6	7551.3	6995.8	6010.0	5806.7	5347.2	5635.1	6052.9	7106.9
55°	8111.7	8052.4	8171.1	8347.8	7870.6	6671.4	6444.2	5999.9	6413.9	6935.3	8436.2
57.5°	8364.2	8384.4	8652.0	9009.3	8698.7	7377.1	7130.9	6772.4	7268.5	7922.4	9921.9
60°	8490.4	8571.2	9105.2	9775.5	9486.4	8150.9	7914.8	7659.8	8216.5	9013.1	11403.9
62.5°	8511.9	8620.5	9376.6	10044.4	10570.8	9336.2	9063.5	8787.1	9400.6	10218.6	12476.9
65°	8118.1	8284.7	9352.6	10375.1	11559.2	11316.8	11143.9	10661.7	10986.1	11280.2	12659.9
67.5°	6960.5	7142.3	8427.3	10238.8	12351.9	13371.9	13339.1	12627.1	12210.5	11690.5	11302.9
70°	5108.7	5255.1	6489.6	8753.0	12006.0	14985.1	15043.2	13900.8	12552.6	10819.4	8404.6
71°	4131.6	4257.8	5421.7	7770.9	11332.0	15068.5	15189.6	13957.6	12196.7	10033.0	7036.2
72.5°	2571.4	2642.1	3600.2	5864.8	9757.8	14210.1	14414.6	13230.5	11075.7	8480.3	4973.6
75°	970.7	998.5	1335.5	2586.5	5824.4	10675.5	10923.0	9998.9	7781.0	4841.0	2081.6
77.5°	521.3	535.2	662.7	1075.5	2334.1	6119.8	6437.9	5703.2	3732.7	1694.0	850.8
80°	349.7	358.5	458.2	637.5	1073.0	2330.3	2595.4	2289.9	1397.4	966.9	605.9
82.5°	226.0	231.0	311.8	419.1	693.0	819.3	935.4	977.0	872.3	693.0	366.1
85°	149.0	152.7	205.8	267.6	429.2	403.9	414.0	541.5	594.6	457.0	186.8
87.5°	85.8	88.4	123.7	137.6	193.1	151.5	164.1	257.5	353.5	297.9	107.3
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°	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4	2316.4
2.5°	2287.3	2277.2	2254.5	2240.6	2234.3	2231.8	2229.3	2234.3	2234.3	2231.8	2226.8
5°	2245.7	2226.8	2188.9	2162.4	2148.5	2144.7	2149.8	2156.1	2159.9	2159.9	2156.1
7.5°	2215.4	2187.6	2137.1	2100.5	2079.1	2072.7	2086.6	2109.4	2124.5	2132.1	2133.3
10°	2190.1	2152.3	2096.7	2058.9	2041.2	2038.7	2056.3	2085.4	2116.9	2130.8	2133.3
12.5°	2167.4	2124.5	2063.9	2028.6	2015.9	2022.3	2046.2	2072.7	2109.4	2129.6	2130.8
15°	2146.0	2101.8	2037.4	2000.8	1998.3	2008.4	2031.1	2052.6	2080.3	2105.6	2105.6
17.5°	2120.7	2072.7	2005.8	1971.8	1971.8	1980.6	1995.7	2007.1	2024.8	2048.8	2047.5
20°	2090.4	2041.2	1973.0	1937.7	1930.1	1925.1	1925.1	1927.6	1942.7	1964.2	1968.0
22.5°	2067.7	2017.2	1945.3	1902.3	1868.3	1835.4	1821.5	1816.5	1830.4	1850.6	1855.6
25°	2067.7	2017.2	1936.4	1864.5	1781.2	1718.0	1691.5	1684.0	1697.8	1716.8	1724.3
27.5°	2101.8	2051.3	1956.6	1830.4	1677.6	1576.7	1545.1	1538.8	1551.4	1566.6	1574.1
30°	2181.3	2132.1	2014.7	1791.2	1562.8	1430.2	1394.9	1388.6	1394.9	1401.2	1410.0
32.5°	2313.9	2272.2	2109.4	1755.9	1446.6	1297.7	1254.8	1244.7	1247.2	1248.4	1256.0
35°	2529.7	2510.8	2235.6	1714.2	1336.8	1189.1	1144.9	1124.7	1123.5	1129.8	1138.6
37.5°	2860.4	2871.8	2398.4	1653.7	1245.9	1112.1	1067.9	1047.7	1037.6	1050.3	1060.4
40°	3327.5	3354.0	2586.5	1571.6	1171.4	1066.7	1020.0	1001.0	987.1	983.4	988.4
42.5°	3934.7	3927.1	2778.4	1466.8	1090.7	1036.4	987.1	966.9	944.2	915.2	908.9
45°	4654.2	4545.7	2938.7	1338.1	998.5	1007.3	956.8	929.1	893.7	850.8	845.8
47.5°	5503.8	5204.6	3037.2	1200.5	912.7	969.5	922.8	879.8	828.1	800.3	796.5
50°	6527.5	5975.9	3106.6	1060.4	835.7	921.5	874.8	818.0	767.5	759.9	758.7
52.5°	7739.4	6886.0	3192.4	934.1	775.1	859.6	826.8	768.8	728.4	732.2	732.2
55°	9028.2	7827.7	3195.0	834.4	722.1	787.7	791.5	744.8	713.2	725.8	729.6
57.5°	10203.4	8650.8	2943.8	763.7	671.6	730.9	780.1	753.6	729.6	773.8	777.6
60°	11228.4	9284.5	2403.5	705.6	629.9	709.4	805.4	807.9	802.8	922.8	931.6
62.5°	11603.4	9290.8	1706.7	656.4	607.2	722.1	858.4	862.2	862.2	973.3	989.7
65°	11078.2	8517.0	1136.1	627.4	592.0	749.8	901.3	884.9	845.8	922.8	905.1
67.5°	9227.6	6629.8	830.6	608.4	570.6	751.1	939.2	897.5	830.6	896.3	866.0
70°	6342.0	4218.7	695.5	590.8	545.3	718.3	959.4	893.7	807.9	835.7	795.3
71°	5104.9	3366.6	660.2	584.5	535.2	699.3	961.9	888.7	796.5	814.2	777.6
72.5°	3362.9	2074.0	617.3	570.6	520.1	666.5	955.6	877.3	781.4	782.6	758.7
75°	1326.7	859.6	555.4	539.0	477.2	613.5	927.8	853.3	752.3	727.1	717.0
77.5°	670.3	561.7	488.5	494.8	426.7	559.2	888.7	814.2	712.0	677.9	670.3
80°	489.8	426.7	417.8	429.2	369.9	506.2	839.5	761.2	660.2	695.5	680.4
82.5°	297.9	260.0	326.9	354.7	309.3	451.9	781.4	699.3	594.6	547.9	530.2
85°	141.4	152.7	236.1	261.3	228.5	361.0	714.5	631.2	518.8	448.1	455.7
87.5°	69.4	84.6	135.1	156.5	150.2	265.1	539.0	489.8	409.0	337.0	329.5
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)