

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: P195399

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195399  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)  
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-T4FT-7060  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18257 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

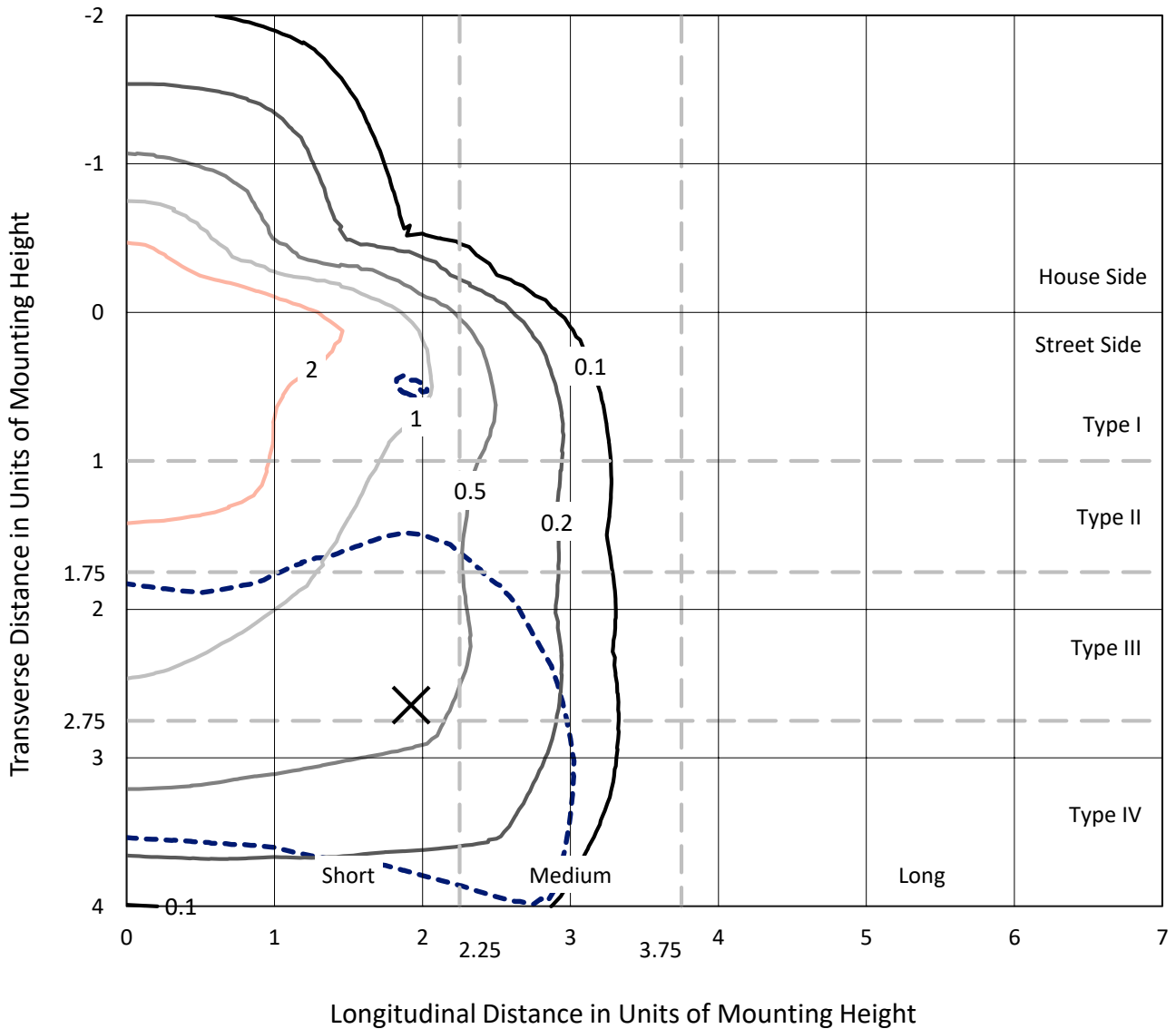
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

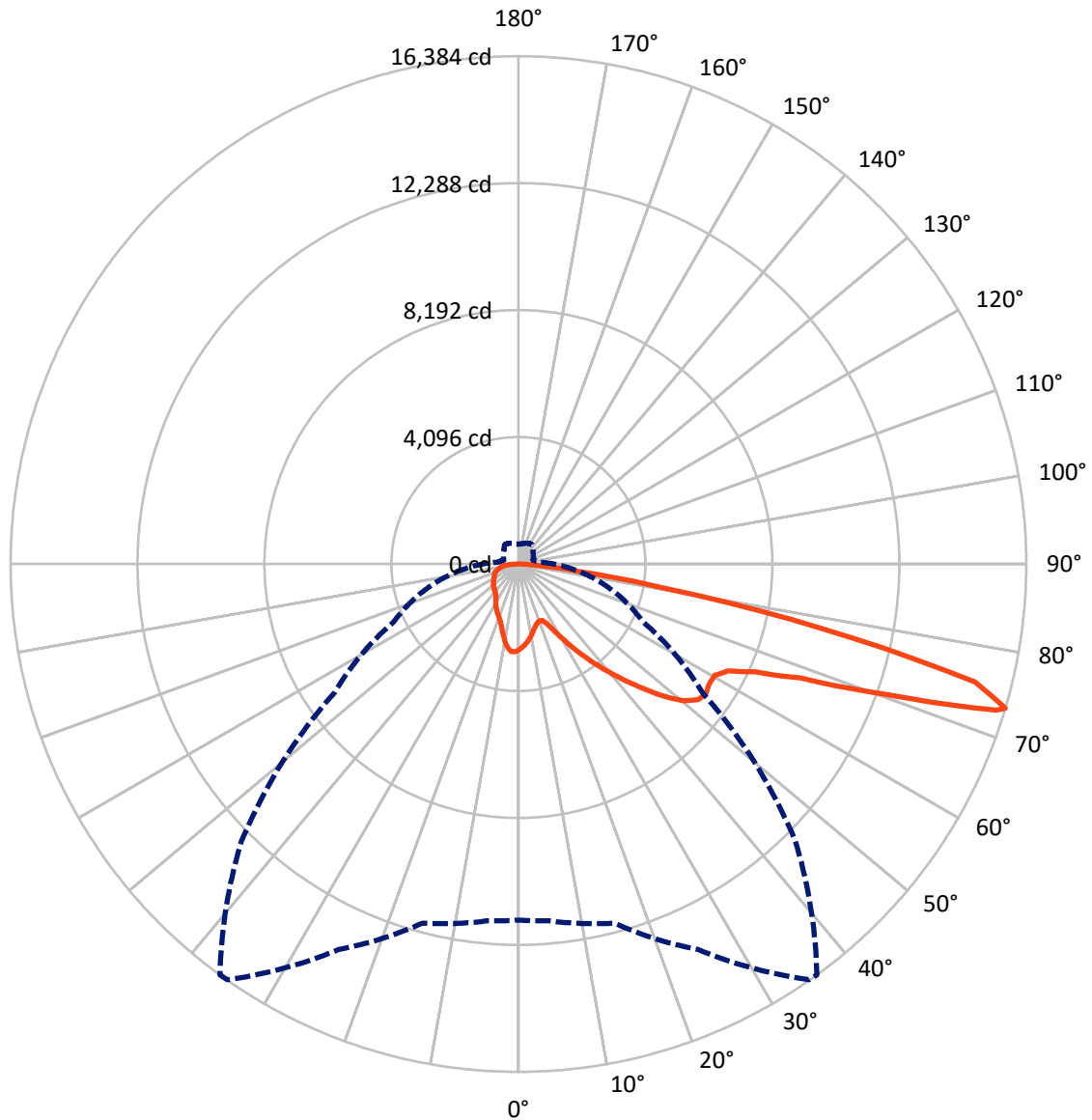
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 73-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3520.5	0.0	3520.5
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	14736.5	0.0	14736.5
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	18257.0	0.0	18257.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	251.2	1.4
10°-20°	630.8	3.5
20°-30°	1011.4	5.5
30°-40°	1672.9	9.2
40°-50°	2588.7	14.2
50°-60°	3465.5	19.0
60°-70°	4527.0	24.8
70°-80°	3697.8	20.3
80°-90°	411.6	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°	18257.0	100.0
0°-180°	18257.0	100.0



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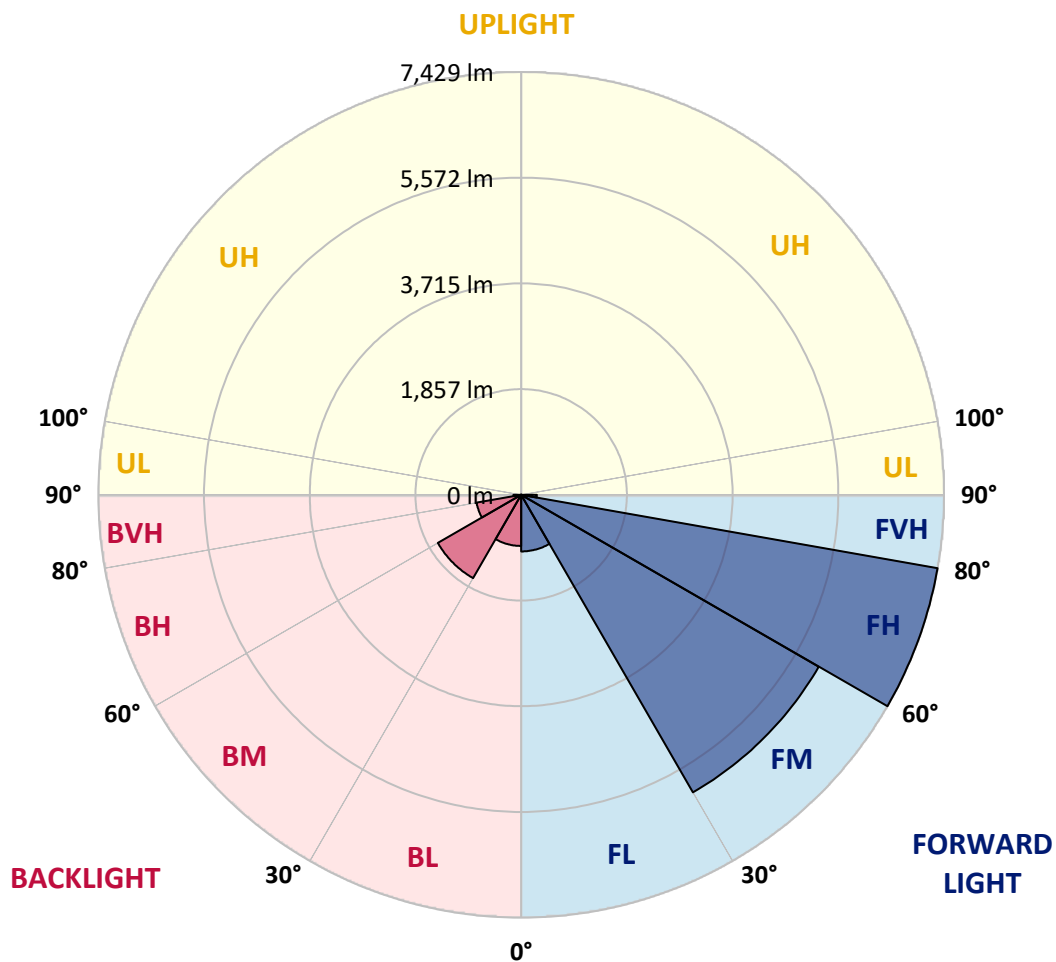
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	994.8	5.4			
FM (30°-60°)	6036.4	33.1			
FH (60°-80°)	7429.3	40.7			G3/7500
FVH (80°-90°)	276.0	1.5			G3/500
BL (0°-30°)	898.6	4.9	B2/1000		
BM (30°-60°)	1690.7	9.3	B2/2500		
BH (60°-80°)	795.6	4.4	B2/1000		G2/1000
BVH (80°-90°)	135.6	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4
2.5°	2659.8	2666.8	2668.0	2676.1	2676.1	2674.9	2678.4	2692.3	2699.3	2715.5	2729.4
5°	2528.8	2536.9	2540.4	2554.3	2571.7	2572.8	2585.6	2612.3	2637.8	2673.8	2703.9
7.5°	2381.4	2390.7	2400.0	2429.0	2454.5	2456.8	2481.2	2524.1	2557.8	2601.8	2656.4
10°	2238.8	2241.1	2250.4	2287.5	2321.1	2324.6	2359.4	2408.1	2453.4	2514.8	2576.3
12.5°	2121.6	2128.6	2126.3	2154.1	2183.1	2185.4	2231.8	2293.3	2359.4	2429.0	2502.1
15°	2081.0	2079.9	2055.5	2054.3	2067.1	2069.4	2114.7	2186.6	2260.8	2346.6	2440.6
17.5°	2108.9	2099.6	2035.8	1996.3	1988.2	1990.5	2024.2	2103.1	2181.9	2280.5	2393.0
20°	2262.0	2226.0	2076.4	1981.3	1954.6	1954.6	1974.3	2038.1	2125.1	2239.9	2381.4
22.5°	2625.0	2569.4	2250.4	2081.0	1987.1	1977.8	1962.7	2011.4	2107.7	2245.7	2429.0
25°	3082.1	3055.4	2569.4	2346.6	2152.9	2122.8	2023.0	2040.4	2143.7	2308.4	2558.9
27.5°	3505.5	3459.1	2988.1	2732.9	2459.2	2412.8	2201.7	2130.9	2229.5	2424.4	2746.8
30°	3752.6	3721.2	3418.5	3174.9	2848.9	2789.8	2487.0	2309.5	2382.6	2615.8	3013.6
32.5°	4021.7	4003.1	3850.0	3628.4	3271.2	3202.7	2855.9	2600.7	2616.9	2869.8	3335.0
35°	4282.7	4307.0	4220.0	4057.6	3725.9	3662.1	3351.2	2981.2	2905.8	3155.2	3678.3
37.5°	4595.9	4601.7	4547.1	4441.6	4203.8	4151.6	3895.2	3387.2	3220.1	3459.1	4010.1
40°	5221.1	5129.5	4916.0	4832.5	4691.0	4658.5	4366.2	3759.5	3512.4	3771.1	4323.3
42.5°	5897.4	5754.7	5420.6	5283.7	5226.9	5196.7	4758.3	4007.7	3786.2	4083.1	4630.7
45°	6442.6	6326.6	5999.4	5830.1	5837.0	5788.3	5100.5	4229.3	4083.1	4396.3	4974.0
47.5°	6979.6	6785.9	6419.4	6395.0	6476.2	6404.3	5427.6	4450.9	4392.9	4737.4	5317.4
50°	7014.4	6838.1	6689.6	6884.5	7023.7	6934.4	5724.5	4740.9	4714.2	5150.3	5760.5
52.5°	6591.0	6565.5	6791.7	7120.0	7350.8	7270.8	5967.0	5039.0	5042.5	5666.5	6299.9
55°	6436.8	6404.3	6675.7	7079.4	7391.4	7343.9	6147.9	5375.4	5406.7	6292.9	6878.7
57.5°	6696.6	6615.4	6668.8	7002.8	7296.3	7268.5	6335.8	5748.9	5805.7	7014.4	7413.5
60°	7502.8	7336.9	7053.9	7116.5	7299.8	7283.5	6605.0	6165.3	6260.4	7766.1	7752.2
62.5°	8710.3	8522.4	7945.9	7667.5	7626.9	7595.6	7049.2	6676.9	6724.4	8309.0	7555.0
65°	10035.0	9833.2	9147.6	8691.8	8452.8	8385.5	7766.1	7294.0	6995.9	8307.8	6787.1
67.5°	11522.1	11308.7	10625.5	10190.5	9931.8	9817.0	8929.6	7792.8	6907.7	7604.9	5431.1
70°	13045.2	12842.2	12529.0	12681.0	12794.6	12619.5	10762.3	7958.7	6274.4	5962.3	3647.0
72.5°	12236.7	12220.4	12458.2	13898.9	16090.2	16125.0	12592.8	7490.0	4847.6	3543.8	1944.1
73°	11486.2	11554.6	11995.4	13719.1	16372.0	16383.6	12628.8	7247.6	4450.9	3053.1	1707.5
75°	5950.7	6414.7	8050.3	11124.3	15159.8	15214.4	11132.4	5486.7	2652.9	1695.9	1150.7
77.5°	1593.8	1572.9	2593.7	5419.5	10107.0	10035.0	7034.1	2656.4	1271.3	1063.7	807.3
80°	546.4	553.3	882.7	1982.4	4717.7	4885.9	3053.1	1158.8	836.3	741.2	571.9
82.5°	278.4	287.7	461.7	843.3	1973.1	1931.4	982.5	682.1	560.3	450.1	320.2
85°	148.5	153.1	254.0	437.3	723.8	732.0	345.7	364.2	356.1	255.2	157.8
87.5°	73.1	75.4	121.8	192.6	268.0	258.7	120.6	157.8	175.2	143.8	87.0
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°	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4	2765.4
2.5°	2746.8	2746.8	2761.9	2787.4	2806.0	2823.4	2835.0	2853.6	2864.0	2862.8	2861.7
5°	2728.3	2739.9	2770.0	2801.4	2822.2	2836.2	2836.2	2844.3	2844.3	2840.8	2836.2
7.5°	2685.4	2705.1	2749.2	2777.0	2782.8	2767.7	2737.6	2714.4	2685.4	2670.3	2664.5
10°	2616.9	2642.4	2698.1	2710.9	2680.7	2627.4	2554.3	2491.6	2436.0	2410.4	2402.3
12.5°	2549.6	2583.3	2635.5	2615.8	2543.8	2439.4	2326.9	2241.1	2178.5	2154.1	2146.0
15°	2494.0	2534.6	2575.2	2513.7	2388.4	2243.4	2119.3	2039.3	1991.7	1973.1	1968.5
17.5°	2456.8	2504.4	2518.3	2403.5	2229.5	2067.1	1956.9	1904.7	1883.8	1875.7	1873.4
20°	2459.2	2512.5	2478.9	2296.8	2076.4	1912.8	1839.7	1824.7	1824.7	1824.7	1823.5
22.5°	2523.0	2569.4	2462.6	2197.0	1929.1	1782.9	1751.6	1764.3	1773.6	1773.6	1772.5
25°	2655.2	2680.7	2474.2	2100.7	1791.0	1670.4	1671.5	1695.9	1704.0	1704.0	1701.7
27.5°	2857.0	2836.2	2495.1	1994.0	1655.3	1568.3	1584.5	1606.6	1612.4	1608.9	1607.7
30°	3109.9	3026.4	2512.5	1868.7	1527.7	1473.2	1487.1	1499.9	1495.2	1487.1	1485.9
32.5°	3393.0	3220.1	2502.1	1728.4	1415.2	1374.6	1382.7	1389.7	1382.7	1363.0	1363.0
35°	3673.7	3395.3	2445.2	1575.3	1325.9	1279.5	1278.3	1300.3	1299.2	1276.0	1277.1
37.5°	3919.6	3533.3	2335.1	1434.9	1249.3	1209.9	1214.5	1228.4	1235.4	1204.1	1200.6
40°	4134.2	3628.4	2179.6	1315.4	1187.8	1190.1	1177.4	1155.3	1147.2	1133.3	1131.0
42.5°	4336.0	3694.6	2014.9	1215.7	1156.5	1183.2	1140.3	1088.1	1066.0	1078.8	1086.9
45°	4534.4	3768.8	1856.0	1133.3	1117.1	1162.3	1103.1	1045.1	1019.6	1025.4	1033.5
47.5°	4776.8	3872.0	1664.6	1045.1	1056.7	1124.0	1079.9	1017.3	979.0	955.8	948.9
50°	5095.8	4021.7	1416.3	950.0	992.9	1082.3	1060.2	976.7	934.9	888.5	876.9
52.5°	5494.8	4163.2	1165.8	873.5	940.7	1046.3	1027.7	941.9	890.9	835.2	825.9
55°	5892.7	4182.9	950.0	807.3	881.6	997.6	988.3	914.1	842.1	796.9	787.6
57.5°	6171.1	3996.1	805.0	751.7	824.7	937.3	952.3	880.4	801.5	766.8	761.0
60°	6175.8	3549.6	716.9	714.6	781.8	885.1	915.2	841.0	776.0	752.8	748.2
62.5°	5685.1	2860.5	660.0	686.7	750.5	842.1	887.4	818.9	770.2	761.0	756.3
65°	4765.2	2113.5	614.8	661.2	721.5	806.2	864.2	812.0	767.9	764.4	761.0
67.5°	3518.2	1448.8	576.5	628.7	689.0	769.1	842.1	801.5	754.0	767.9	763.3
70°	2213.3	967.4	540.6	591.6	646.1	726.2	813.1	783.0	736.6	728.5	713.4
72.5°	1249.3	699.5	497.6	544.0	590.4	669.3	773.7	751.7	697.2	664.7	649.6
73°	1128.7	662.4	487.2	532.4	577.7	657.7	764.4	742.4	685.6	649.6	635.7
75°	825.9	541.7	439.6	484.9	524.3	604.4	720.4	696.0	634.5	591.6	582.3
77.5°	598.6	417.6	378.2	418.8	453.6	530.1	654.2	626.4	566.1	542.9	533.6
80°	431.5	316.7	313.2	352.6	382.8	460.5	583.5	554.5	496.5	564.9	549.8
82.5°	257.5	203.0	229.7	273.8	305.1	386.3	506.9	473.3	417.6	422.2	359.6
85°	123.0	114.8	142.7	179.8	201.8	264.5	422.2	395.6	334.1	273.8	268.0
87.5°	54.5	52.2	68.4	80.0	107.9	158.9	288.8	256.4	242.4	145.0	113.7
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)