

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: P195419

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195419
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-05-D-UNV-T4W-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 24008 lumens
Efficiency: N/A
Efficacy: 114.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 210
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

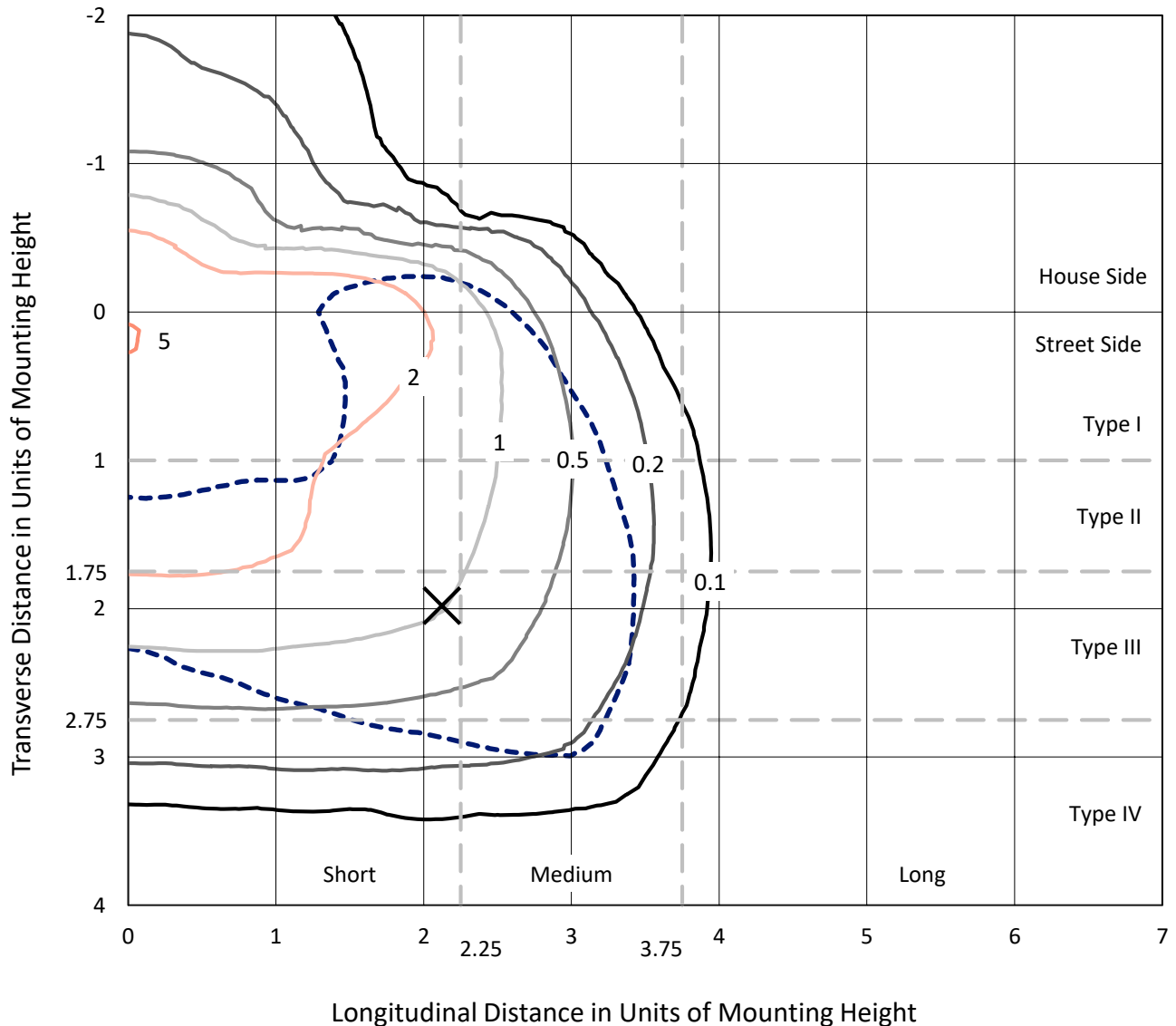


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Iso-Footcandle Lines of Horizontal Illumination

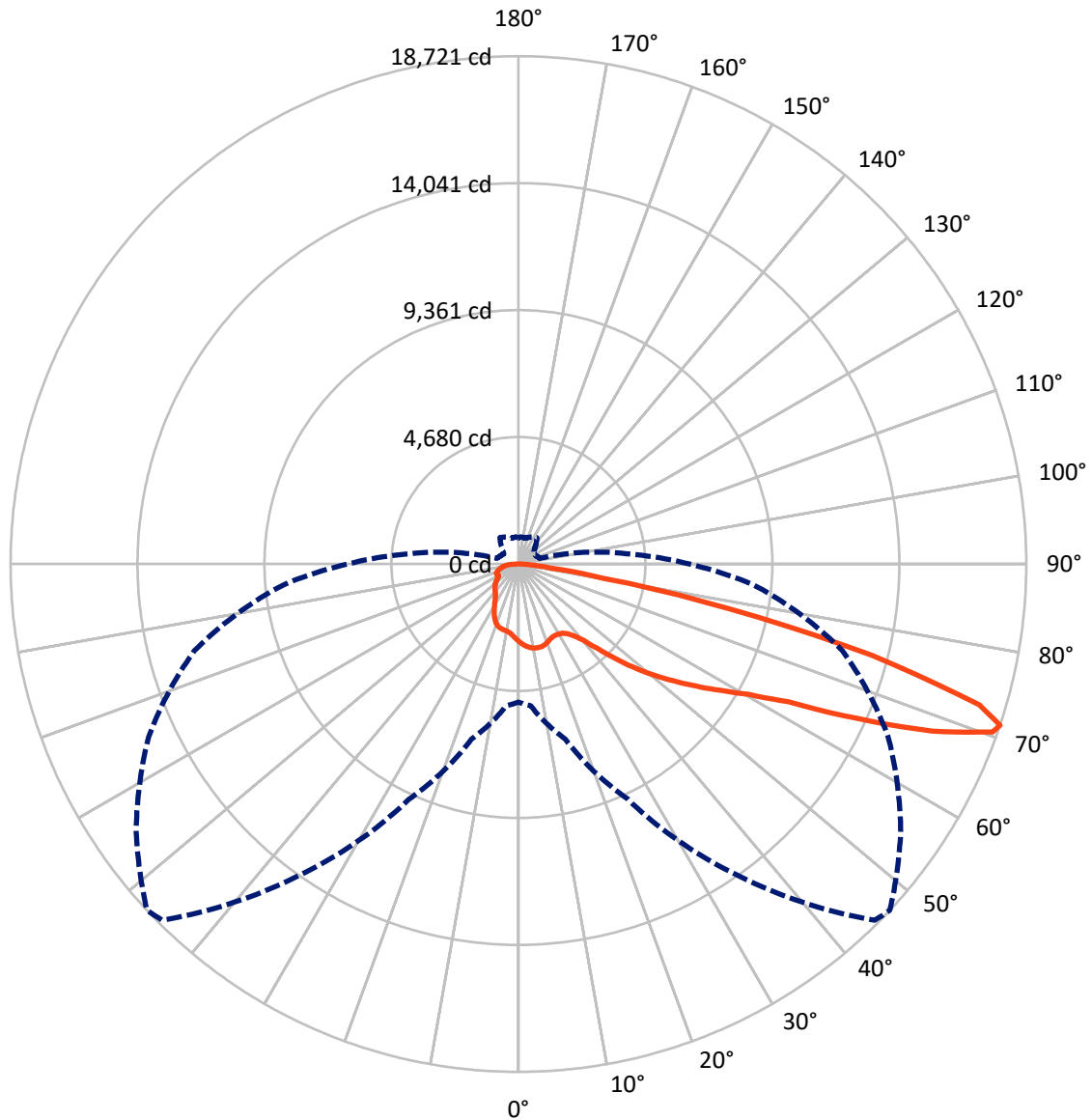
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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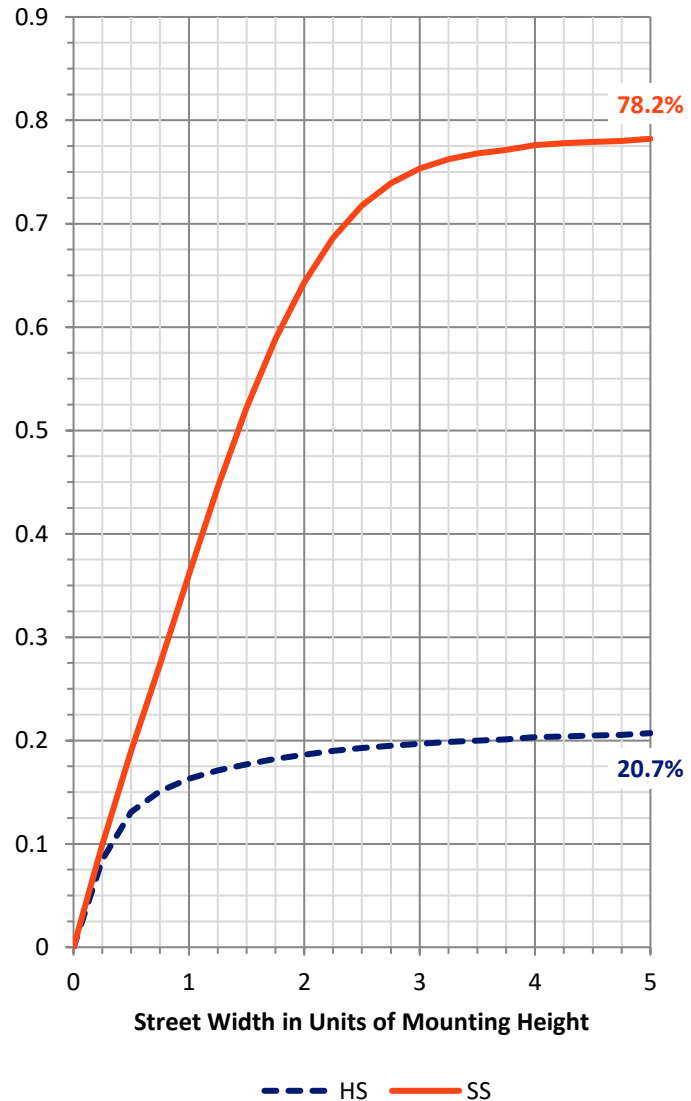
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5145.2	0.0	5145.2
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	18862.8	0.0	18862.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	24008.0	0.0	24008.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.6	1.1
10°-20°	797.5	3.3
20°-30°	1185.0	4.9
30°-40°	1701.5	7.1
40°-50°	3016.8	12.6
50°-60°	5162.3	21.5
60°-70°	7328.6	30.5
70°-80°	4013.8	16.7
80°-90°	529.8	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°	24008.0	100.0
0°-180°	24008.0	100.0



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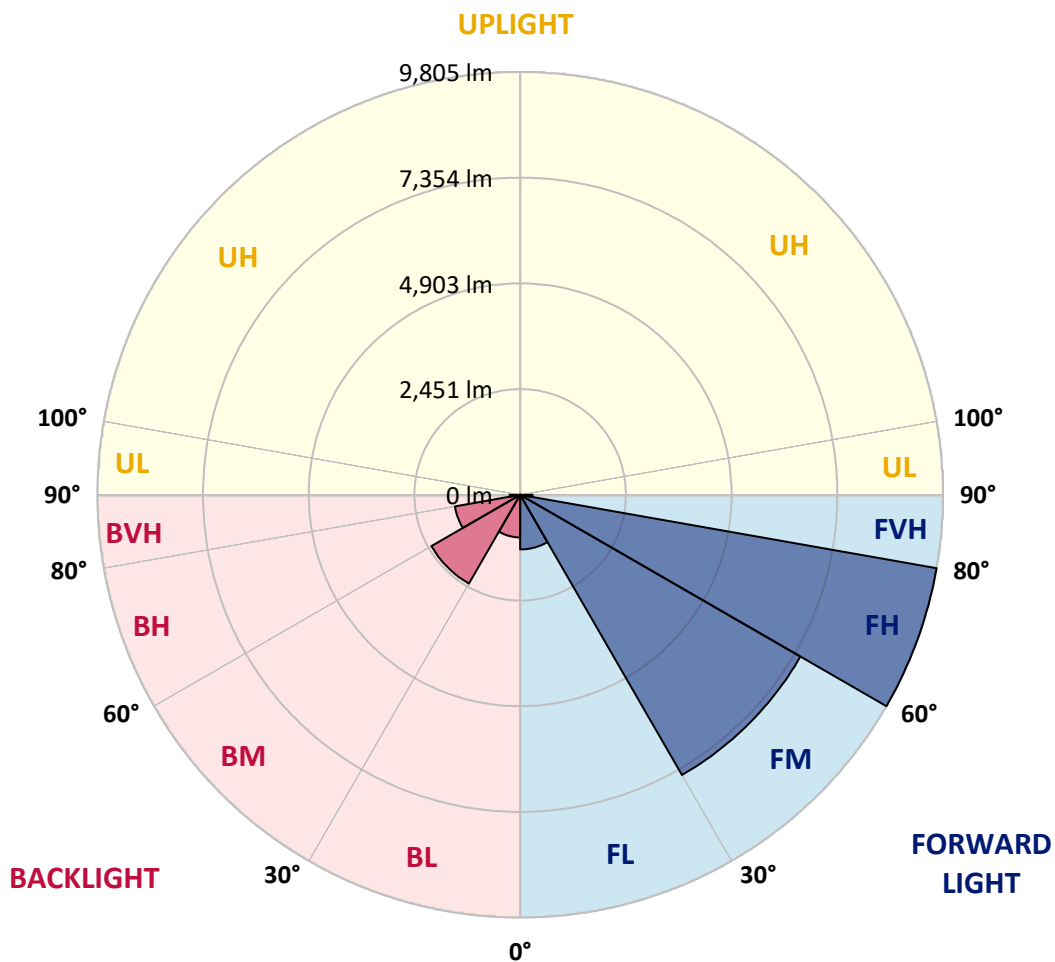
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1267.0	5.3			
FM	(30°-60°)	7503.2	31.3			
FH	(60°-80°)	9805.1	40.8			G4/12000
FVH	(80°-90°)	287.4	1.2			G3/500
BL	(0°-30°)	988.1	4.1	B2/1000		
BM	(30°-60°)	2377.4	9.9	B2/2500		
BH	(60°-80°)	1537.3	6.4	B3/2500		G3/2500
BVH	(80°-90°)	242.5	1.0			G3/500
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°	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0
2.5°	3029.2	3023.0	3026.1	3015.2	2988.8	2960.7	2960.7	2931.2	2900.1	2869.0	2834.7
5°	3217.5	3208.1	3200.3	3166.1	3114.8	3057.2	3047.9	2988.8	2925.0	2861.2	2798.9
7.5°	3374.6	3365.3	3341.9	3279.7	3205.0	3119.4	3108.6	3030.8	2946.7	2858.1	2770.9
10°	3486.6	3480.4	3435.3	3355.9	3268.8	3167.7	3149.0	3069.7	2970.1	2859.6	2749.2
12.5°	3548.9	3539.5	3485.1	3391.7	3289.0	3186.3	3167.7	3091.4	2977.9	2856.5	2727.4
15°	3524.0	3519.3	3468.0	3373.0	3270.4	3181.7	3166.1	3088.3	2973.2	2845.6	2707.1
17.5°	3418.2	3429.1	3388.6	3295.3	3211.2	3149.0	3131.9	3058.8	2949.9	2819.2	2676.0
20°	3271.9	3284.4	3264.1	3169.2	3121.0	3080.5	3071.2	3012.1	2911.0	2780.3	2638.7
22.5°	3116.3	3127.2	3128.8	3040.1	3024.5	3009.0	3001.2	2959.2	2876.7	2756.9	2613.8
25°	3009.0	3021.4	3024.5	2946.7	2956.1	2960.7	2959.2	2929.6	2870.5	2756.9	2616.9
27.5°	2981.0	2987.2	2984.1	2912.5	2929.6	2956.1	2957.6	2951.4	2895.4	2788.1	2660.5
30°	3077.4	3080.5	3041.7	2934.3	2951.4	2985.6	2987.2	2984.1	2948.3	2869.0	2758.5
32.5°	3494.4	3491.3	3357.5	3080.5	3021.4	3033.9	3038.5	3066.5	3069.7	3002.8	2900.1
35°	4129.2	4127.6	3972.0	3499.1	3220.6	3155.2	3161.5	3205.0	3243.9	3198.8	3139.7
37.5°	4827.7	4832.4	4737.5	4096.5	3650.0	3377.7	3371.5	3404.2	3474.2	3489.7	3497.5
40°	5602.6	5625.9	5621.2	4782.6	4252.1	3757.3	3695.1	3657.8	3793.1	3878.7	3989.2
42.5°	6487.8	6481.6	6484.7	5535.7	4939.8	4354.8	4239.6	4065.4	4222.5	4370.3	4613.0
45°	7248.6	7273.5	7292.2	6336.9	5709.9	5037.8	4921.1	4603.7	4745.3	4966.2	5336.5
47.5°	8014.1	7970.5	8004.8	7228.4	6567.2	5817.3	5666.3	5238.5	5370.7	5681.9	6245.1
50°	8905.6	8885.4	8729.8	8392.2	7603.4	6607.6	6410.0	5901.3	6094.2	6509.6	7366.9
52.5°	9705.3	9596.4	9475.0	9307.0	8622.4	7407.3	7156.8	6590.5	6945.2	7460.2	8759.3
55°	9997.8	9924.7	10070.9	10288.7	9700.6	8222.6	7942.5	7394.9	7905.2	8547.7	10397.6
57.5°	10308.9	10333.8	10663.7	11104.0	10721.2	9092.3	8788.9	8347.0	8958.5	9764.4	12228.8
60°	10464.5	10564.1	11222.2	12048.4	11692.1	10046.0	9755.1	9440.8	10126.9	11108.6	14055.4
62.5°	10491.0	10624.8	11556.7	12379.8	13028.5	11506.9	11170.9	10830.2	11586.3	12594.5	15377.9
65°	10005.6	10210.9	11527.2	12787.4	14246.8	13948.0	13734.9	13140.6	13540.4	13902.9	15603.4
67.5°	8578.9	8802.9	10386.7	12619.4	15223.8	16480.9	16440.5	15563.0	15049.6	14408.6	13930.9
70°	6296.5	6476.9	7998.5	10788.1	14797.5	18469.3	18540.9	17132.8	15471.2	13335.0	10358.7
71°	5092.2	5247.8	6682.3	9577.7	13966.7	18572.0	18721.3	17202.8	15032.5	12365.8	8672.2
72.5°	3169.2	3256.4	4437.2	7228.4	12026.6	17514.0	17766.1	16306.7	13650.9	10452.1	6130.0
75°	1196.4	1230.7	1646.1	3187.9	7178.6	13157.7	13462.6	12323.8	9590.2	5966.6	2565.6
77.5°	642.6	659.7	816.8	1325.6	2876.7	7542.7	7934.7	7029.3	4600.6	2087.9	1048.6
80°	431.0	441.9	564.8	785.7	1322.5	2872.1	3198.8	2822.3	1722.3	1191.8	746.8
82.5°	278.5	284.7	384.3	516.5	854.2	1009.7	1152.9	1204.2	1075.1	854.2	451.2
85°	183.6	188.3	253.6	329.8	529.0	497.9	510.3	667.5	732.8	563.2	230.3
87.5°	105.8	108.9	152.5	169.6	238.0	186.7	202.3	317.4	435.6	367.2	132.2
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°	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0	2855.0
2.5°	2819.2	2806.7	2778.7	2761.6	2753.8	2750.7	2747.6	2753.8	2753.8	2750.7	2744.5
5°	2767.8	2744.5	2697.8	2665.1	2648.0	2643.4	2649.6	2657.4	2662.0	2662.0	2657.4
7.5°	2730.5	2696.3	2634.0	2588.9	2562.5	2554.7	2571.8	2599.8	2618.5	2627.8	2629.4
10°	2699.4	2652.7	2584.2	2537.6	2515.8	2512.7	2534.5	2570.2	2609.1	2626.2	2629.4
12.5°	2671.4	2618.5	2543.8	2500.2	2484.7	2492.4	2522.0	2554.7	2599.8	2624.7	2626.2
15°	2644.9	2590.5	2511.1	2466.0	2462.9	2475.3	2503.3	2529.8	2564.0	2595.1	2595.1
17.5°	2613.8	2554.7	2472.2	2430.2	2430.2	2441.1	2459.8	2473.8	2495.6	2525.1	2523.6
20°	2576.5	2515.8	2431.8	2388.2	2378.9	2372.6	2372.6	2375.8	2394.4	2420.9	2425.5
22.5°	2548.5	2486.2	2397.5	2344.6	2302.6	2262.2	2245.1	2238.8	2256.0	2280.9	2287.1
25°	2548.5	2486.2	2386.6	2298.0	2195.3	2117.5	2084.8	2075.5	2092.6	2115.9	2125.3
27.5°	2590.5	2528.2	2411.5	2256.0	2067.7	1943.2	1904.3	1896.6	1912.1	1930.8	1940.1
30°	2688.5	2627.8	2483.1	2207.7	1926.1	1762.8	1719.2	1711.4	1719.2	1727.0	1737.9
32.5°	2851.8	2800.5	2599.8	2164.2	1783.0	1599.4	1546.5	1534.1	1537.2	1538.7	1548.1
35°	3117.9	3094.6	2755.4	2112.8	1647.6	1465.6	1411.1	1386.2	1384.7	1392.5	1403.4
37.5°	3525.5	3539.5	2956.1	2038.1	1535.6	1370.7	1316.2	1291.3	1278.9	1294.5	1306.9
40°	4101.2	4133.8	3187.9	1937.0	1443.8	1314.7	1257.1	1233.8	1216.7	1212.0	1218.2
42.5°	4849.5	4840.2	3424.4	1807.9	1344.2	1277.3	1216.7	1191.8	1163.8	1128.0	1120.2
45°	5736.4	5602.6	3622.0	1649.2	1230.7	1241.6	1179.3	1145.1	1101.5	1048.6	1042.4
47.5°	6783.4	6414.7	3743.3	1479.6	1124.9	1194.9	1137.3	1084.4	1020.6	986.4	981.7
50°	8045.2	7365.3	3828.9	1306.9	1030.0	1135.8	1078.2	1008.2	945.9	936.6	935.1
52.5°	9538.8	8487.1	3934.7	1151.3	955.3	1059.5	1019.1	947.5	897.7	902.4	902.4
55°	11127.3	9647.7	3937.8	1028.4	889.9	970.8	975.5	917.9	879.0	894.6	899.3
57.5°	12575.8	10662.1	3628.2	941.3	827.7	900.8	961.5	928.8	899.3	953.7	958.4
60°	13839.1	11443.2	2962.3	869.7	776.4	874.4	992.6	995.7	989.5	1137.3	1148.2
62.5°	14301.2	11450.9	2103.5	809.0	748.4	889.9	1058.0	1062.6	1062.6	1199.5	1219.8
65°	13654.0	10497.2	1400.2	773.2	729.7	924.2	1110.9	1090.6	1042.4	1137.3	1115.5
67.5°	11373.1	8171.2	1023.7	749.9	703.2	925.7	1157.5	1106.2	1023.7	1104.6	1067.3
70°	7816.5	5199.6	857.3	728.1	672.1	885.3	1182.4	1101.5	995.7	1030.0	980.2
71°	6291.8	4149.4	813.7	720.4	659.7	861.9	1185.5	1095.3	981.7	1003.5	958.4
72.5°	4144.7	2556.2	760.8	703.2	641.0	821.5	1177.8	1081.3	963.1	964.6	935.1
75°	1635.2	1059.5	684.6	664.3	588.1	756.1	1143.5	1051.7	927.3	896.2	883.7
77.5°	826.1	692.3	602.1	609.9	525.9	689.2	1095.3	1003.5	877.5	835.5	826.1
80°	603.7	525.9	515.0	529.0	455.9	623.9	1034.6	938.2	813.7	857.3	838.6
82.5°	367.2	320.5	403.0	437.2	381.2	557.0	963.1	861.9	732.8	675.2	653.4
85°	174.3	188.3	290.9	322.1	281.6	445.0	880.6	777.9	639.4	552.3	561.7
87.5°	85.6	104.2	166.5	192.9	185.1	326.7	664.3	603.7	504.1	415.4	406.1
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)