

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: P270553

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270553
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-04-D-UNV-T4FT-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 21363.9 lumens
Efficiency: N/A
Efficacy: 95.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B3 - U0 - G4

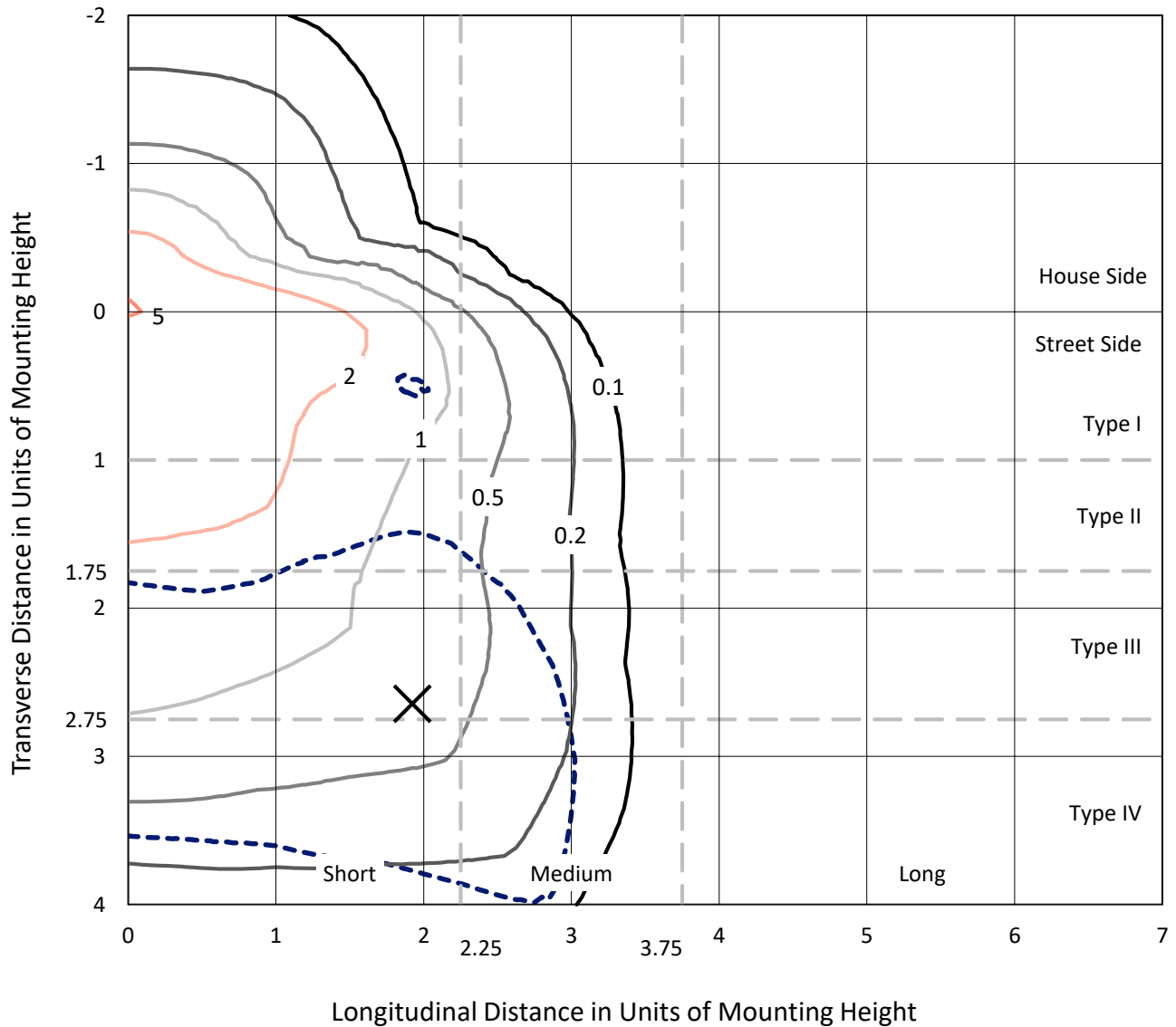
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

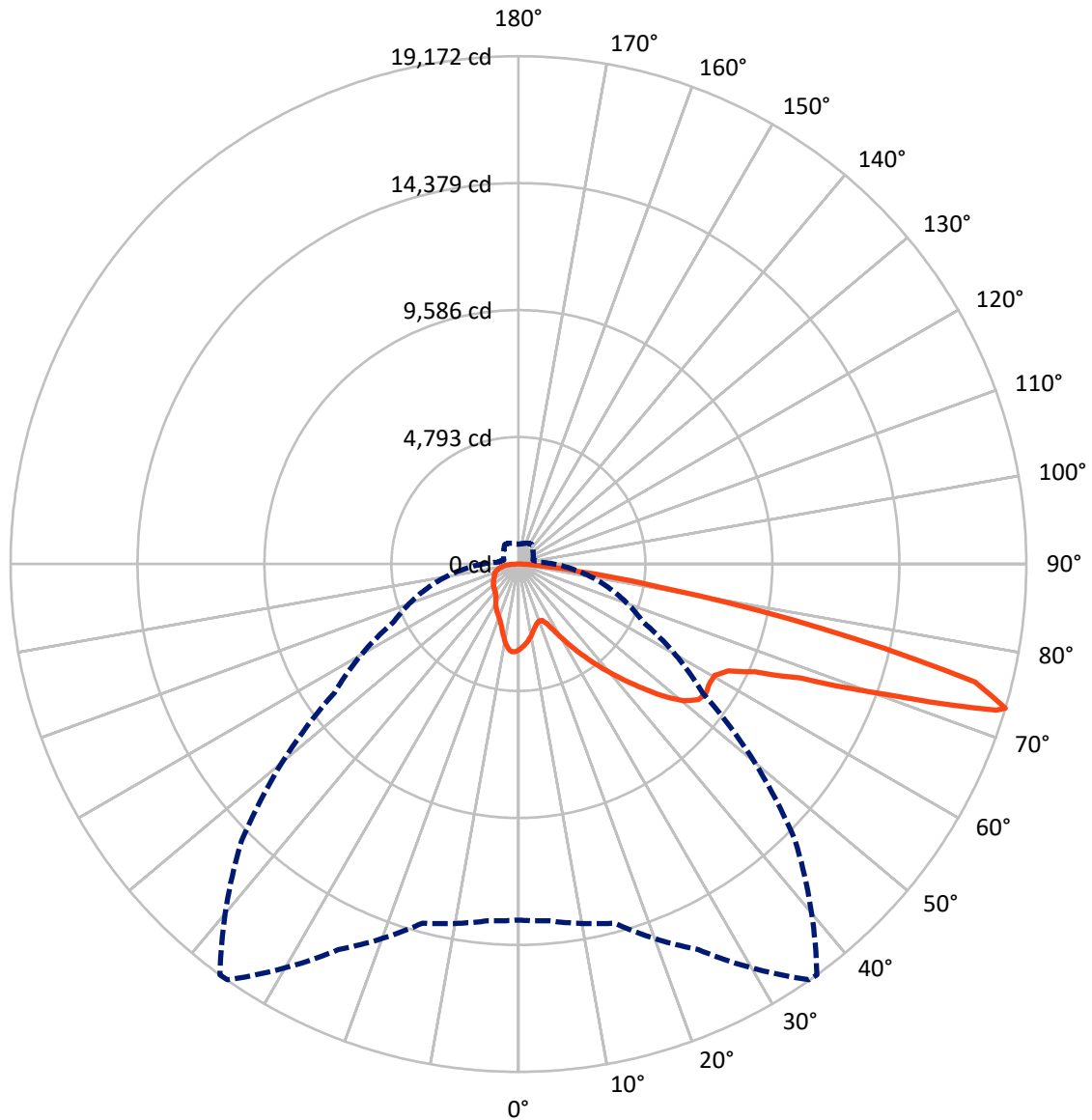
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - 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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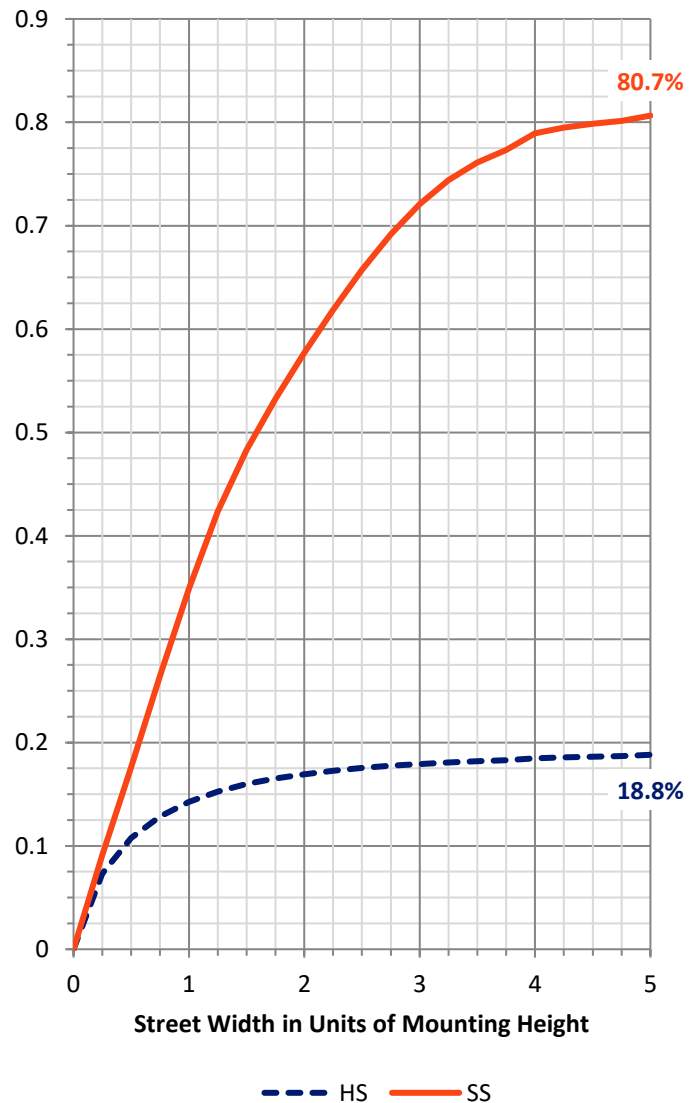
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4119.6	0.0	4119.6
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	17244.3	0.0	17244.3
	% Fixture	80.7	0.0	80.7
Total	Lumens	21363.9	0.0	21363.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.9	1.4
10°-20°	738.2	3.5
20°-30°	1183.5	5.5
30°-40°	1957.6	9.2
40°-50°	3029.2	14.2
50°-60°	4055.2	19.0
60°-70°	5297.4	24.8
70°-80°	4327.1	20.3
80°-90°	481.6	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°	21363.9	100.0
0°-180°	21363.9	100.0



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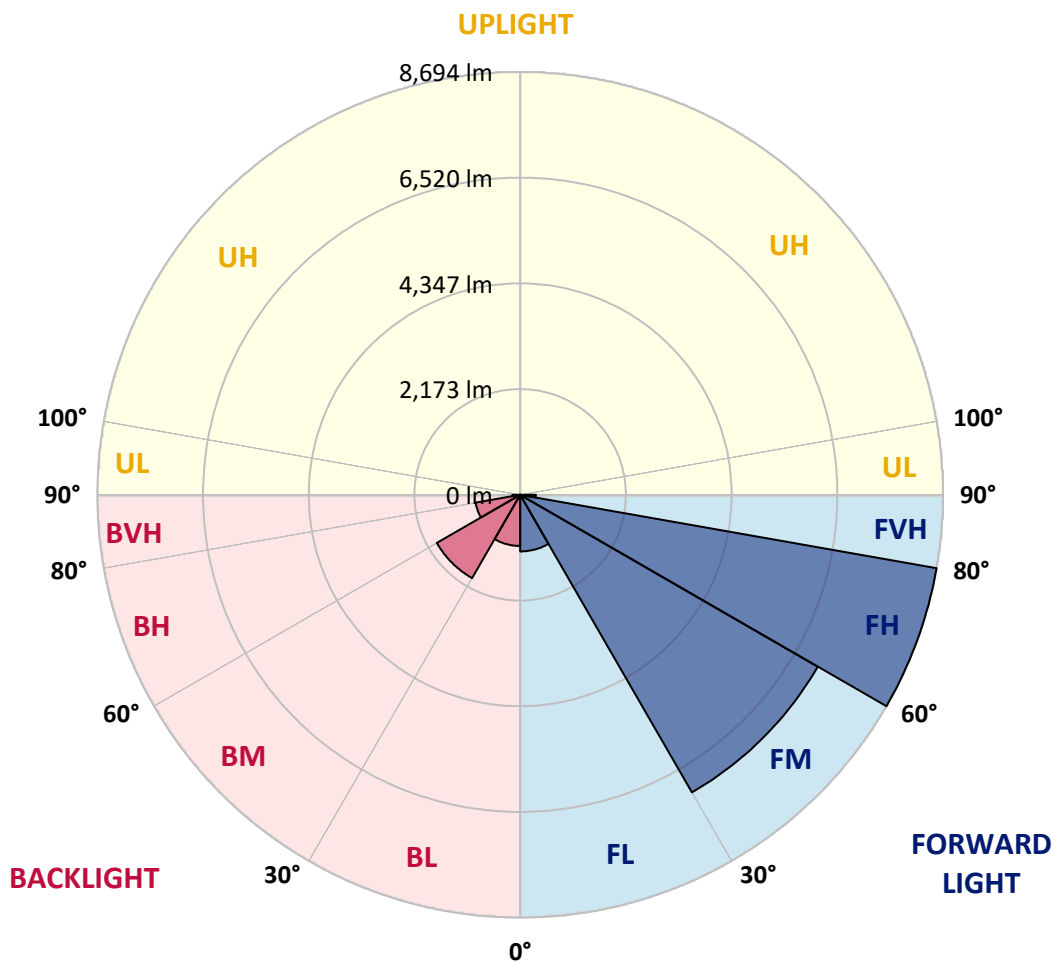
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1164.1	5.4			
FM	(30°-60°)	7063.7	33.1			
FH	(60°-80°)	8693.5	40.7			G4/12000
FVH	(80°-90°)	323.0	1.5			G3/500
BL	(0°-30°)	1051.6	4.9	B3/2500		
BM	(30°-60°)	1978.5	9.3	B2/2500		
BH	(60°-80°)	930.9	4.4	B2/1000		G2/1000
BVH	(80°-90°)	158.6	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1
2.5°	3112.4	3120.6	3122.0	3131.5	3131.5	3130.1	3134.1	3150.4	3158.6	3177.7	3194.0
5°	2959.0	2968.5	2972.8	2989.0	3009.3	3010.7	3025.6	3056.8	3086.7	3128.7	3164.1
7.5°	2786.7	2797.6	2808.5	2842.3	2872.2	2874.9	2903.4	2953.6	2993.1	3044.6	3108.4
10°	2619.7	2622.5	2633.3	2676.8	2716.1	2720.2	2760.9	2818.0	2870.9	2942.8	3014.7
12.5°	2482.6	2490.8	2488.0	2520.6	2554.6	2557.4	2611.6	2683.5	2760.9	2842.3	2927.8
15°	2435.1	2433.8	2405.3	2404.0	2418.9	2421.7	2474.6	2558.7	2645.6	2745.9	2855.9
17.5°	2467.7	2456.9	2382.2	2336.0	2326.6	2329.2	2368.7	2460.9	2553.3	2668.7	2800.2
20°	2646.9	2604.8	2429.7	2318.4	2287.3	2287.3	2310.4	2384.9	2486.8	2621.2	2786.7
22.5°	3071.8	3006.5	2633.3	2435.1	2325.3	2314.4	2296.6	2353.6	2466.3	2627.9	2842.3
25°	3606.5	3575.3	3006.5	2745.9	2519.2	2484.1	2367.3	2387.7	2508.4	2701.3	2994.4
27.5°	4102.0	4047.8	3496.7	3198.0	2877.7	2823.4	2576.2	2493.5	2608.9	2836.9	3214.2
30°	4391.2	4354.5	4000.2	3715.2	3333.7	3264.5	2910.1	2702.6	2788.1	3061.0	3526.4
32.5°	4706.1	4684.3	4505.2	4245.8	3827.9	3747.8	3341.9	3043.3	3062.2	3358.1	3902.4
35°	5011.5	5040.0	4938.2	4748.1	4360.0	4285.3	3921.6	3488.5	3400.3	3692.2	4304.3
37.5°	5378.0	5384.8	5321.0	5197.5	4919.2	4858.2	4558.1	3963.6	3768.1	4047.8	4692.4
40°	6109.6	6002.4	5752.6	5654.9	5489.3	5451.3	5109.2	4399.3	4110.1	4412.8	5059.0
42.5°	6901.0	6734.1	6343.1	6182.9	6116.4	6081.0	5568.1	4689.8	4430.5	4778.1	5418.7
45°	7538.9	7403.2	7020.4	6822.2	6830.4	6773.4	5968.3	4949.0	4778.1	5144.6	5820.5
47.5°	8167.4	7940.7	7511.7	7483.3	7578.3	7494.1	6351.1	5208.4	5140.5	5543.6	6222.3
50°	8208.2	8001.8	7828.1	8056.1	8219.0	8114.5	6698.8	5547.7	5516.4	6026.8	6740.8
52.5°	7712.7	7682.8	7947.6	8331.6	8601.8	8508.0	6982.3	5896.5	5900.5	6630.7	7372.0
55°	7532.2	7494.1	7811.8	8284.1	8649.3	8593.6	7194.2	6290.1	6326.9	7363.9	8049.4
57.5°	7836.2	7741.1	7803.7	8194.6	8538.0	8505.4	7414.0	6727.1	6793.7	8208.2	8675.0
60°	8779.6	8585.6	8254.3	8327.6	8542.1	8522.9	7728.9	7214.5	7325.8	9087.8	9071.4
62.5°	10192.6	9972.8	9298.0	8972.4	8924.8	8888.2	8248.9	7813.1	7868.8	9723.0	8840.7
65°	11742.7	11506.6	10704.4	10170.9	9891.2	9812.5	9087.8	8535.2	8186.4	9721.5	7942.0
67.5°	13482.9	13233.1	12433.7	11924.6	11621.9	11487.5	10449.2	9119.0	8083.3	8899.0	6355.2
70°	15265.2	15027.7	14661.1	14838.9	14972.1	14767.0	12593.9	9313.0	7342.0	6977.0	4267.6
72.5°	14319.1	14300.1	14578.4	16264.3	18828.4	18869.1	14735.7	8764.7	5672.4	4146.8	2275.0
73°	13440.8	13520.8	14036.7	16053.8	19158.2	19171.7	14777.8	8481.0	5208.4	3572.6	1998.1
75°	6963.4	7506.3	9420.3	13017.3	17739.6	17803.5	13026.9	6420.5	3104.4	1984.4	1346.5
77.5°	1865.1	1840.5	3035.2	6341.8	11826.9	11742.7	8231.2	3108.4	1487.8	1244.7	944.7
80°	639.4	647.5	1033.1	2319.8	5520.5	5717.4	3572.6	1356.0	978.7	867.4	669.1
82.5°	325.7	336.7	540.2	986.8	2309.0	2260.0	1149.7	798.1	655.7	526.6	374.7
85°	173.7	179.2	297.2	511.8	847.0	856.5	404.4	426.2	416.8	298.6	184.6
87.5°	85.5	88.3	142.6	225.4	313.6	302.6	141.2	184.6	205.0	168.3	101.8
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°	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1	3236.1
2.5°	3214.2	3214.2	3231.9	3261.7	3283.6	3303.8	3317.4	3339.2	3351.3	3350.0	3348.7
5°	3192.5	3206.1	3241.4	3278.1	3302.4	3318.8	3318.8	3328.3	3328.3	3324.3	3318.8
7.5°	3142.4	3165.4	3217.0	3249.6	3256.4	3238.7	3203.4	3176.2	3142.4	3124.8	3117.8
10°	3062.2	3092.1	3157.4	3172.3	3136.9	3074.4	2989.0	2915.7	2850.5	2820.7	2811.2
12.5°	2983.5	3022.8	3084.1	3061.0	2976.8	2854.5	2722.9	2622.5	2549.2	2520.6	2511.1
15°	2918.4	2965.9	3013.5	2941.5	2794.8	2625.1	2480.0	2386.3	2330.7	2309.0	2303.4
17.5°	2874.9	2930.6	2946.9	2812.6	2608.9	2418.9	2289.9	2228.9	2204.4	2194.9	2192.1
20°	2877.7	2940.2	2900.7	2687.5	2429.7	2238.3	2152.8	2135.2	2135.2	2135.2	2133.8
22.5°	2952.3	3006.5	2881.8	2570.9	2257.4	2086.4	2049.7	2064.6	2075.4	2075.4	2074.0
25°	3107.1	3136.9	2895.2	2458.2	2095.7	1954.6	1956.0	1984.4	1994.0	1994.0	1991.4
27.5°	3343.2	3318.8	2919.8	2333.3	1936.9	1835.1	1854.2	1880.1	1886.8	1882.7	1881.3
30°	3639.2	3541.4	2940.2	2186.7	1787.6	1723.8	1740.1	1755.1	1749.7	1740.1	1738.8
32.5°	3970.4	3768.1	2927.8	2022.5	1656.0	1608.5	1617.9	1626.1	1617.9	1594.9	1594.9
35°	4298.8	3973.1	2861.5	1843.3	1551.6	1497.1	1495.9	1521.5	1520.3	1493.2	1494.5
37.5°	4586.7	4134.5	2732.5	1679.1	1461.9	1415.8	1421.2	1437.5	1445.6	1409.0	1404.9
40°	4837.7	4245.8	2550.6	1539.2	1389.9	1392.7	1377.7	1351.9	1342.4	1326.2	1323.5
42.5°	5073.8	4323.3	2357.8	1422.6	1353.2	1384.6	1334.3	1273.3	1247.4	1262.4	1271.9
45°	5306.0	4410.1	2171.8	1326.2	1307.2	1360.2	1290.9	1223.0	1193.2	1200.0	1209.5
47.5°	5589.8	4531.0	1947.9	1223.0	1236.5	1315.3	1263.7	1190.4	1145.7	1118.5	1110.3
50°	5962.9	4706.1	1657.4	1111.7	1161.9	1266.4	1240.6	1143.0	1094.0	1039.8	1026.1
52.5°	6430.0	4871.7	1364.2	1022.1	1100.9	1224.4	1202.7	1102.2	1042.5	977.4	966.4
55°	6895.5	4894.8	1111.7	944.7	1031.7	1167.3	1156.5	1069.6	985.5	932.5	921.8
57.5°	7221.2	4676.1	942.1	879.6	965.0	1096.8	1114.3	1030.3	938.0	897.2	890.4
60°	7226.8	4153.7	838.8	836.1	914.8	1035.7	1071.0	984.2	908.0	881.0	875.5
62.5°	6652.6	3347.4	772.4	803.5	878.3	985.5	1038.4	958.3	901.3	890.4	885.0
65°	5576.1	2473.2	719.5	773.7	844.2	943.4	1011.2	950.1	898.6	894.5	890.4
67.5°	4116.9	1695.5	674.6	735.7	806.3	899.9	985.5	938.0	882.2	898.6	893.2
70°	2590.0	1132.0	632.5	692.2	756.1	849.7	951.6	916.2	862.0	852.4	834.7
72.5°	1461.9	818.4	582.3	636.5	690.8	783.2	905.4	879.6	815.8	777.8	760.1
73°	1320.8	775.1	570.2	623.1	676.0	769.7	894.5	868.8	802.2	760.1	743.8
75°	966.4	633.9	514.5	567.4	613.5	707.1	842.9	814.5	742.4	692.2	681.5
77.5°	700.4	488.7	442.5	490.0	530.8	620.3	765.5	732.9	662.4	635.2	624.4
80°	504.9	370.6	366.5	412.6	448.0	539.0	682.7	648.8	580.9	661.1	643.4
82.5°	301.3	237.5	268.8	320.3	356.9	451.9	593.2	553.9	488.7	494.1	420.8
85°	143.9	134.3	166.9	210.5	236.2	309.5	494.1	462.8	390.9	320.3	313.6
87.5°	63.8	61.1	80.0	93.7	126.2	185.9	338.0	299.9	283.7	169.7	132.9
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)