

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: P197021

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197021
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13187 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 162
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

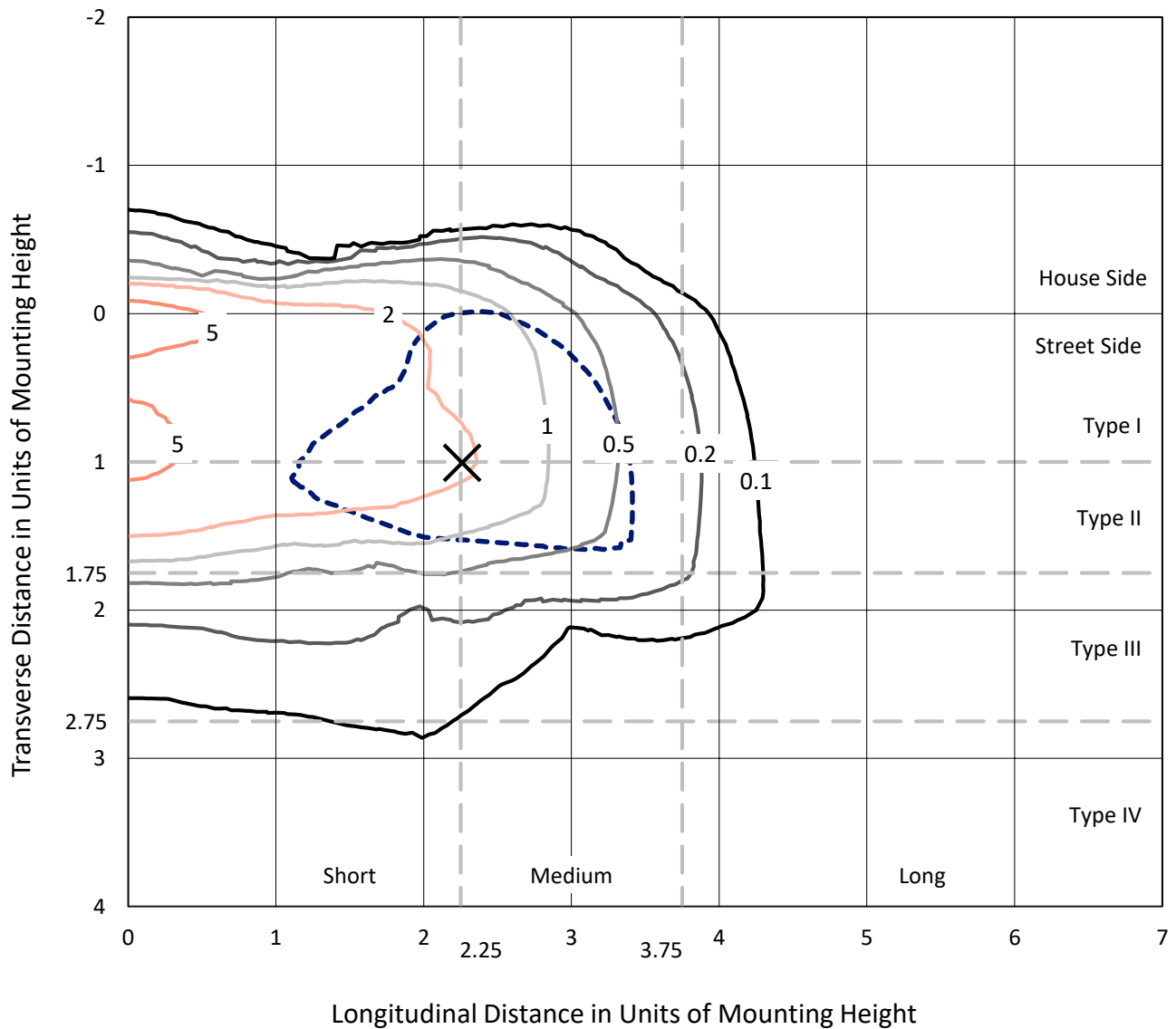


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

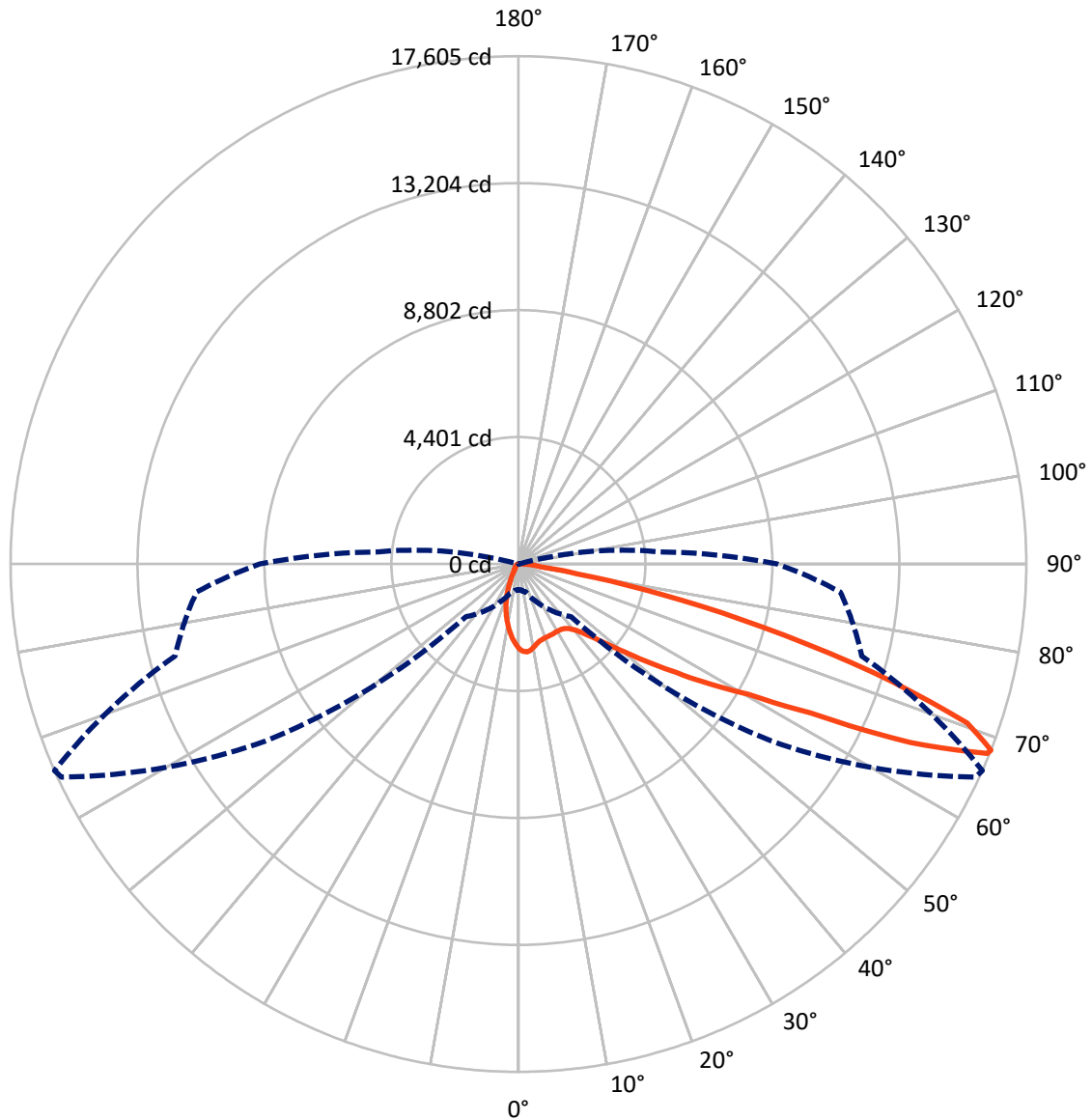


Based on 20 foot mounting height. Maximum calculated value = 7.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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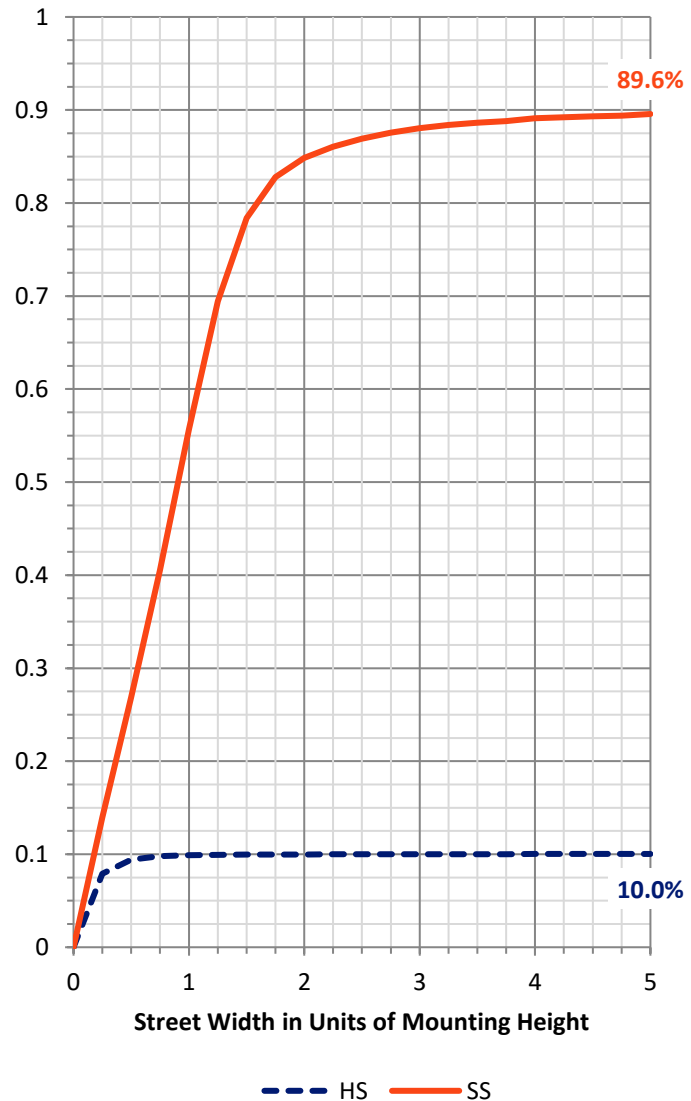
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1335.7	0.0	1335.7
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	11851.3	0.0	11851.3
	% Fixture	89.9	0.0	89.9
Total	Lumens	13187.0	0.0	13187.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.8	1.8
10°-20°	518.2	3.9
20°-30°	750.9	5.7
30°-40°	1149.5	8.7
40°-50°	1966.2	14.9
50°-60°	3075.7	23.3
60°-70°	3541.6	26.9
70°-80°	1772.3	13.4
80°-90°	171.6	1.3
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°	13187.0	100.0
0°-180°	13187.0	100.0

Coefficient of Utilization



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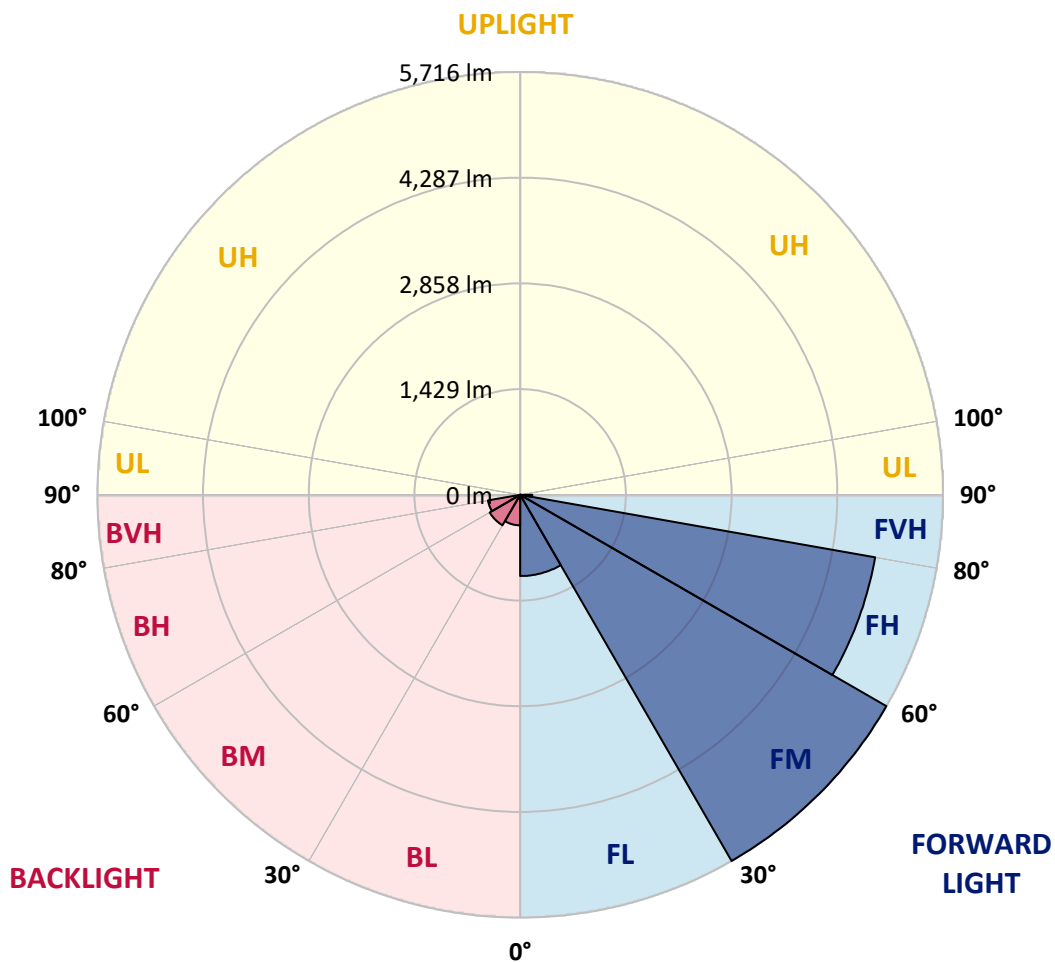
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1097.7	8.3			
FM (30°-60°)	5715.9	43.3			
FH (60°-80°)	4872.6	36.9			G2/5000
FVH (80°-90°)	165.1	1.3			G2/225
BL (0°-30°)	412.3	3.1	B1/500		
BM (30°-60°)	475.6	3.6	B1/1000		
BH (60°-80°)	441.3	3.3	B1/500		G1/500
BVH (80°-90°)	6.5	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9
2.5°	3090.1	3092.2	3091.2	3094.3	3092.2	3076.7	3060.1	3024.9	3028.0	2982.5	2931.7
5°	2872.7	2890.3	2907.9	2925.5	2968.0	3005.2	3049.7	3060.1	3060.1	3020.8	2946.2
7.5°	2651.2	2652.2	2671.9	2695.7	2752.6	2821.0	2924.5	3017.7	3019.7	3030.1	2948.3
10°	2484.5	2489.7	2503.1	2529.0	2586.0	2653.3	2769.2	2915.2	2926.6	3003.2	2927.6
12.5°	2355.1	2361.3	2375.8	2405.8	2457.6	2527.0	2649.1	2815.8	2831.3	2977.3	2921.4
15°	2255.7	2264.0	2275.4	2305.4	2361.3	2434.8	2568.4	2749.5	2768.2	2966.9	2941.0
17.5°	2214.3	2214.3	2213.3	2234.0	2289.9	2364.4	2504.2	2714.3	2738.1	2975.2	2974.2
20°	2231.9	2228.8	2207.1	2201.9	2236.1	2310.6	2453.5	2691.6	2718.5	2990.7	3014.5
22.5°	2325.1	2318.9	2270.2	2229.9	2219.5	2269.2	2419.3	2676.0	2708.1	3022.8	3068.4
25°	2522.8	2504.2	2436.9	2345.8	2264.0	2258.8	2395.5	2667.7	2701.9	3060.1	3127.4
27.5°	2779.6	2774.4	2666.7	2544.6	2387.2	2293.0	2388.2	2661.5	2695.7	3087.0	3175.0
30°	3098.4	3100.5	2976.2	2816.8	2578.7	2389.3	2411.0	2658.4	2693.6	3089.1	3195.7
32.5°	3427.6	3429.7	3326.1	3155.3	2840.6	2554.9	2475.2	2672.9	2705.0	3080.8	3194.7
35°	3744.4	3747.5	3685.4	3547.7	3190.5	2784.7	2596.3	2722.6	2745.4	3086.0	3192.6
37.5°	4145.0	4157.4	4080.8	3952.4	3629.5	3122.2	2794.0	2823.0	2841.7	3128.4	3208.1
40°	4828.2	4811.7	4592.2	4374.8	4105.7	3533.2	3079.8	2995.9	3002.1	3238.2	3267.1
42.5°	5624.3	5603.6	5227.8	4853.1	4595.3	4029.1	3445.2	3260.9	3259.9	3422.4	3395.5
45°	6309.6	6297.2	5901.8	5401.7	5137.8	4576.7	3895.5	3642.9	3630.5	3741.3	3629.5
47.5°	6796.2	6785.8	6486.7	5985.6	5765.1	5179.2	4457.6	4163.6	4137.8	4158.5	4009.4
50°	6843.8	6832.4	6727.9	6405.9	6498.0	6063.3	5152.3	4845.8	4812.7	4780.6	4583.9
52.5°	6398.7	6397.6	6452.5	6431.8	7011.5	7201.0	6004.2	5689.5	5650.2	5568.4	5372.8
55°	5488.7	5483.5	5691.6	5993.9	7000.1	8374.9	7303.4	6693.7	6641.9	6478.4	6221.6
57.5°	4010.4	3983.5	4418.3	5059.1	6508.4	8888.4	9366.6	7941.1	7855.2	7336.6	6941.1
60°	2214.3	2224.7	2783.7	3542.5	5343.8	8786.9	11265.2	9395.6	9169.9	8076.7	7678.2
62.5°	1241.2	1267.1	1683.3	2302.3	3406.9	7963.9	12283.9	11898.8	11355.3	8940.1	8609.9
65°	938.9	954.5	1163.6	1776.4	2148.1	5565.3	12446.4	15398.8	14929.9	10248.6	10093.3
67.5°	884.1	896.5	999.0	1473.1	1956.6	2886.2	11222.8	17469.2	17528.3	12033.3	11242.4
68°	890.3	905.8	1008.3	1417.2	1953.4	2581.8	10701.0	17479.6	17604.9	12321.1	11203.1
70°	817.8	822.0	1066.3	1390.3	1893.4	2034.2	7741.3	16281.9	16506.5	12663.8	10169.9
72.5°	312.6	313.7	478.3	1204.0	1983.5	2045.6	3899.7	12868.8	12880.1	11020.9	7928.7
75°	162.5	136.6	150.1	376.8	1894.4	1993.8	1956.6	8786.9	8732.0	7453.5	4858.3
77.5°	111.8	95.2	100.4	130.4	787.8	1992.8	1413.1	5052.9	5041.5	3170.9	1386.2
80°	63.1	54.9	60.0	109.7	276.4	1870.6	1316.8	2171.9	2046.6	556.9	224.6
82.5°	32.1	26.9	32.1	92.1	171.8	1177.0	1280.6	852.0	758.8	132.5	146.0
85°	8.3	8.3	15.5	64.2	106.6	386.1	1148.1	614.9	552.8	58.0	103.5
87.5°	2.1	1.0	6.2	23.8	38.3	83.9	636.7	342.7	295.0	30.0	60.0
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°	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9	2937.9
2.5°	2911.0	2882.0	2825.1	2760.9	2715.4	2665.7	2636.7	2601.5	2574.6	2550.8	2568.4
5°	2900.7	2844.8	2718.5	2576.6	2457.6	2343.7	2258.8	2178.1	2117.0	2078.7	2094.2
7.5°	2873.8	2790.9	2586.0	2364.4	2169.8	1986.6	1837.5	1704.0	1600.4	1544.5	1562.1
10°	2828.2	2711.2	2435.9	2128.4	1856.1	1597.3	1375.8	1177.0	1026.9	956.5	973.1
12.5°	2795.1	2640.8	2280.6	1900.7	1542.5	1175.0	881.0	653.2	536.2	465.8	472.1
15°	2780.6	2586.0	2135.6	1660.5	1199.8	754.7	476.2	344.7	304.4	289.9	290.9
17.5°	2782.7	2542.5	1998.0	1411.0	854.1	433.8	291.9	262.9	256.7	253.6	253.6
20°	2787.8	2499.0	1855.1	1151.2	546.6	279.5	243.3	234.0	230.9	226.7	227.7
22.5°	2803.4	2465.9	1711.2	890.3	336.4	227.7	215.3	207.0	201.9	195.7	196.7
25°	2827.2	2441.0	1569.4	640.8	237.1	198.8	187.4	176.0	166.7	159.4	160.5
27.5°	2841.7	2405.8	1418.2	436.9	196.7	173.9	158.4	142.9	132.5	126.3	125.3
30°	2831.3	2348.9	1246.4	286.8	173.9	150.1	131.5	113.9	103.5	98.3	98.3
32.5°	2803.4	2275.4	1057.0	209.1	154.2	129.4	106.6	91.1	83.9	80.7	81.8
35°	2771.3	2198.8	855.1	177.0	138.7	109.7	87.0	74.5	71.4	70.4	70.4
37.5°	2753.7	2132.5	661.5	160.5	124.2	91.1	71.4	64.2	61.1	61.1	61.1
40°	2773.3	2081.8	489.7	148.0	109.7	75.6	60.0	54.9	53.8	53.8	53.8
42.5°	2857.2	2064.2	358.2	137.7	95.2	63.1	51.8	47.6	46.6	47.6	47.6
45°	3020.8	2102.5	271.2	127.3	81.8	51.8	44.5	41.4	41.4	42.4	42.4
47.5°	3298.2	2200.9	222.6	117.0	68.3	43.5	38.3	36.2	36.2	37.3	37.3
50°	3728.8	2383.1	199.8	105.6	56.9	37.3	32.1	31.1	31.1	32.1	33.1
52.5°	4383.1	2729.9	188.4	94.2	46.6	31.1	26.9	25.9	26.9	28.0	28.0
55°	5110.9	3174.0	175.0	82.8	39.3	25.9	21.7	21.7	22.8	24.8	24.8
57.5°	5788.9	3602.5	162.5	68.3	34.2	20.7	17.6	17.6	19.7	21.7	21.7
60°	6505.3	4022.8	146.0	54.9	29.0	16.6	14.5	14.5	17.6	19.7	20.7
62.5°	7390.4	4511.5	124.2	43.5	22.8	12.4	10.4	13.5	16.6	19.7	19.7
65°	8669.9	5119.1	97.3	34.2	17.6	9.3	8.3	12.4	15.5	18.6	19.7
67.5°	9134.7	5041.5	73.5	28.0	13.5	7.2	7.2	11.4	15.5	18.6	18.6
68°	8965.0	4871.7	70.4	26.9	12.4	7.2	7.2	11.4	15.5	18.6	18.6
70°	7811.7	3982.5	58.0	20.7	10.4	6.2	6.2	10.4	15.5	17.6	18.6
72.5°	5849.0	2646.0	49.7	13.5	9.3	6.2	5.2	10.4	14.5	17.6	17.6
75°	3355.1	1098.4	42.4	10.4	8.3	5.2	5.2	9.3	14.5	17.6	17.6
77.5°	948.3	256.7	34.2	8.3	7.2	5.2	4.1	9.3	13.5	16.6	16.6
80°	173.9	76.6	26.9	7.2	6.2	5.2	4.1	9.3	13.5	16.6	16.6
82.5°	114.9	36.2	19.7	7.2	6.2	5.2	4.1	8.3	12.4	15.5	15.5
85°	85.9	25.9	12.4	7.2	6.2	5.2	4.1	8.3	12.4	15.5	15.5
87.5°	47.6	11.4	9.3	8.3	7.2	5.2	4.1	7.2	11.4	14.5	14.5
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)