

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: P197326

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197326
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA 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: 22012 lumens
Efficiency: N/A
Efficacy: 85.3 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

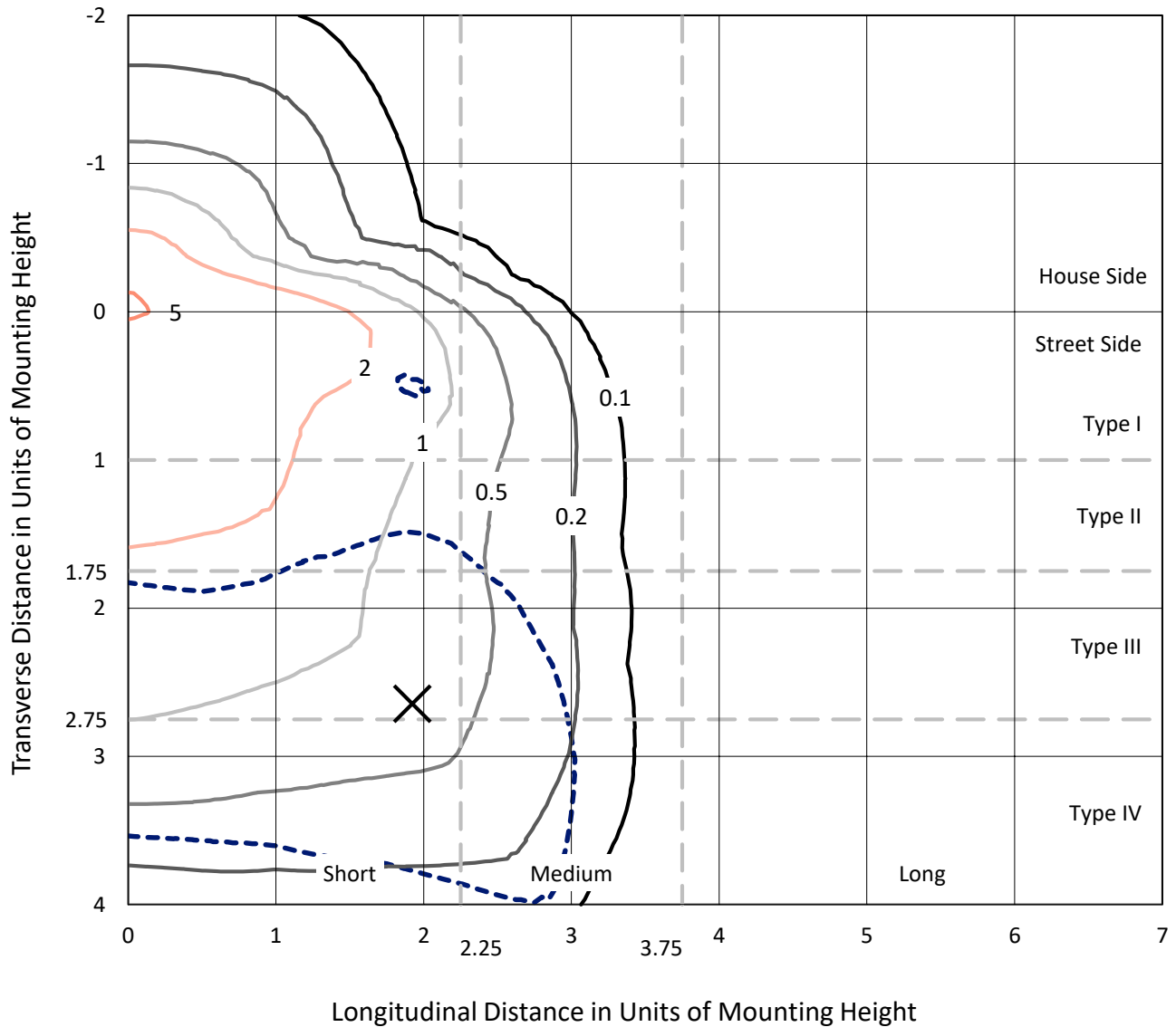
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

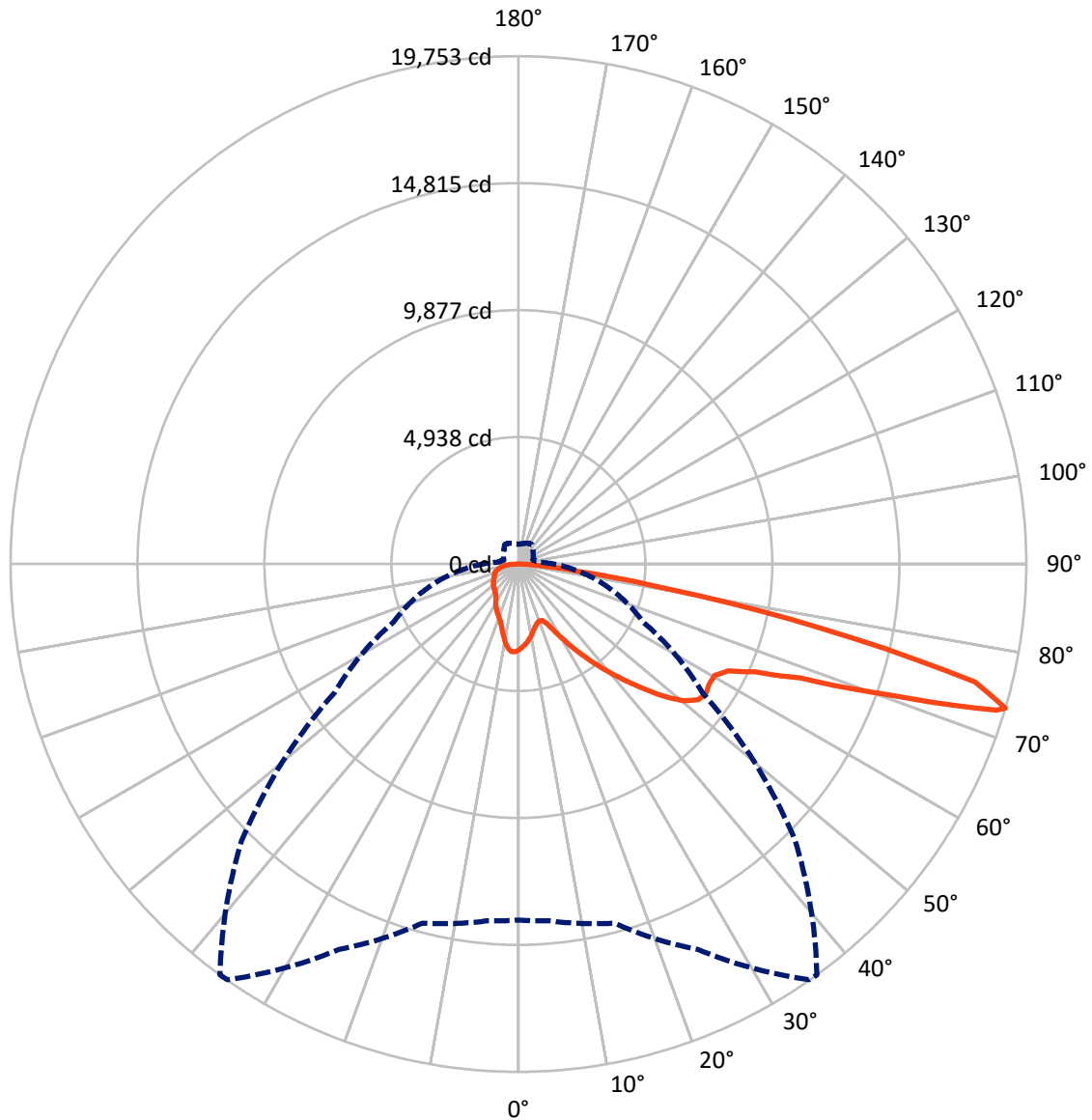
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 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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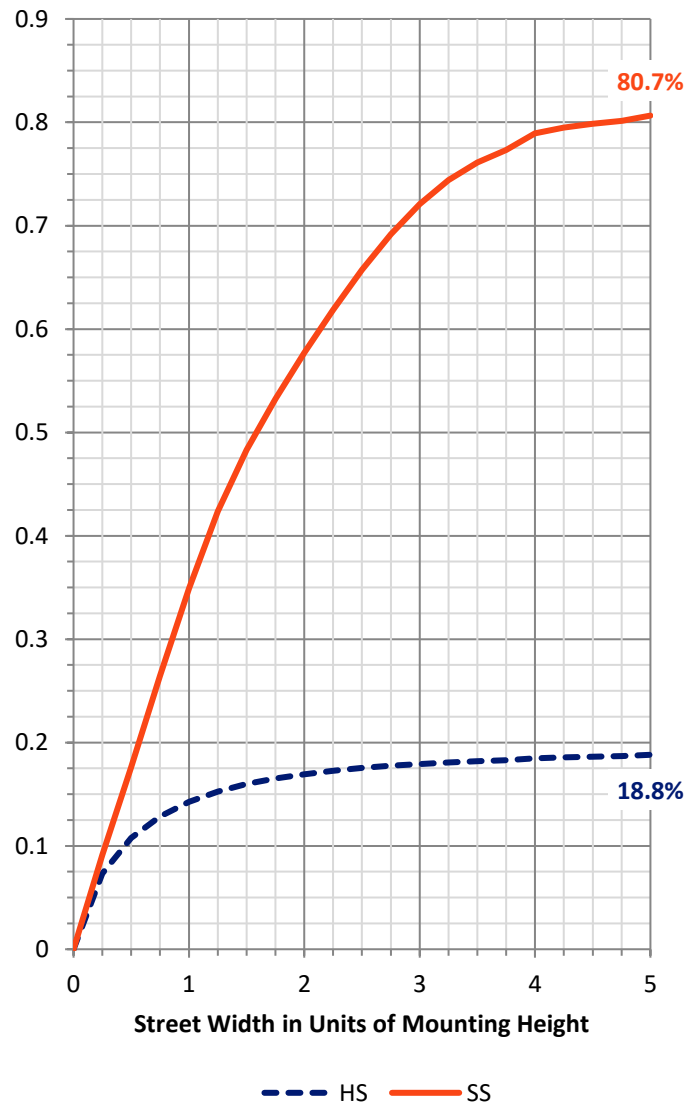
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4244.6	0.0	4244.6
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	17767.4	0.0	17767.4
	% Fixture	80.7	0.0	80.7
Total	Lumens	22012.0	0.0	22012.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.8	1.4
10°-20°	760.6	3.5
20°-30°	1219.4	5.5
30°-40°	2017.0	9.2
40°-50°	3121.1	14.2
50°-60°	4178.3	19.0
60°-70°	5458.1	24.8
70°-80°	4458.3	20.3
80°-90°	496.3	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°	22012.0	100.0
0°-180°	22012.0	100.0



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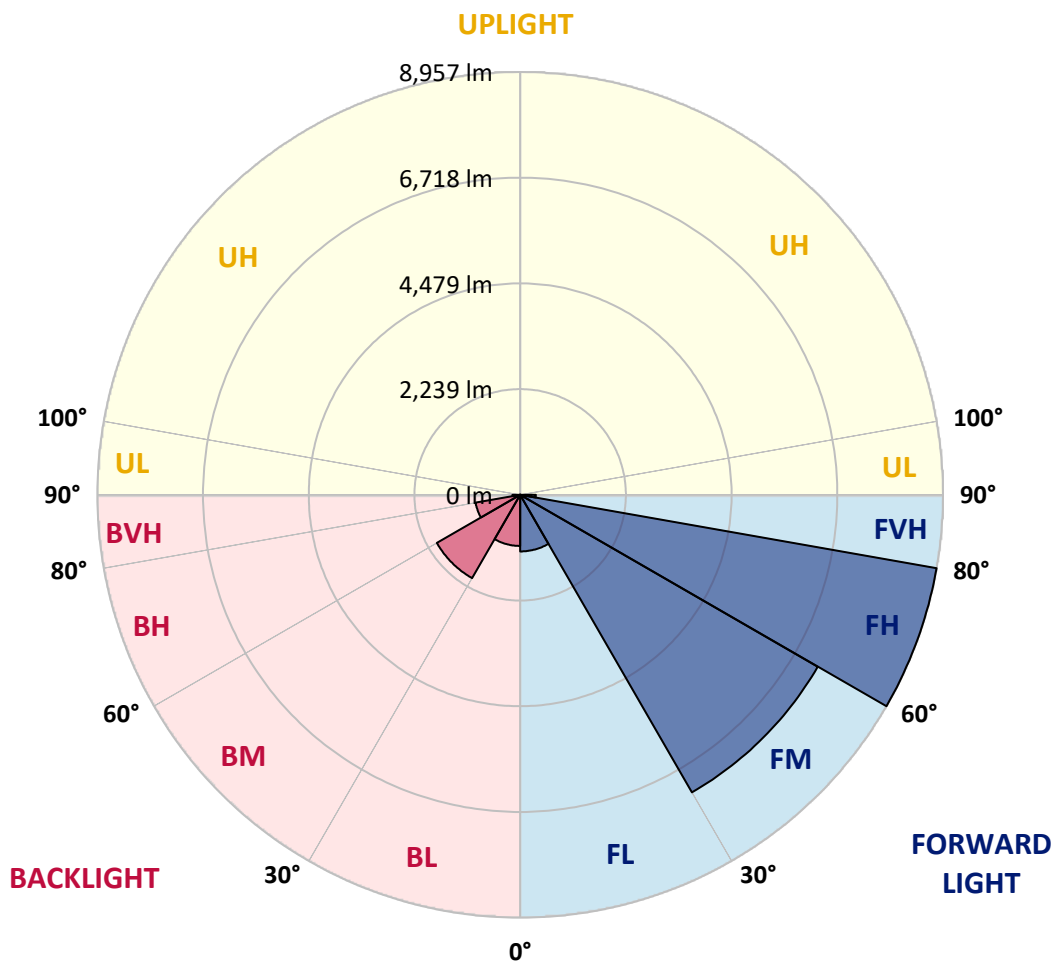
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1199.4	5.4			
FM	(30°-60°)	7277.9	33.1			
FH	(60°-80°)	8957.3	40.7			G4/12000
FVH	(80°-90°)	332.8	1.5			G3/500
BL	(0°-30°)	1083.5	4.9	B3/2500		
BM	(30°-60°)	2038.5	9.3	B2/2500		
BH	(60°-80°)	959.2	4.4	B2/1000		G2/1000
BVH	(80°-90°)	163.4	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°	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2
2.5°	3206.9	3215.3	3216.7	3226.5	3226.5	3225.1	3229.3	3246.1	3254.5	3274.0	3290.8
5°	3048.9	3058.7	3062.9	3079.6	3100.6	3102.0	3117.4	3149.6	3180.3	3223.7	3260.1
7.5°	2871.3	2882.4	2893.6	2928.6	2959.4	2962.2	2991.5	3043.3	3083.8	3137.0	3202.7
10°	2699.2	2702.0	2713.2	2758.0	2798.5	2802.7	2844.7	2903.4	2958.0	3032.1	3106.2
12.5°	2558.0	2566.4	2563.6	2597.1	2632.1	2634.9	2690.8	2765.0	2844.7	2928.6	3016.7
15°	2509.0	2507.6	2478.3	2476.9	2492.2	2495.0	2549.6	2636.3	2725.8	2829.3	2942.6
17.5°	2542.6	2531.4	2454.5	2406.9	2397.1	2399.9	2440.5	2535.6	2630.7	2749.6	2885.2
20°	2727.2	2683.8	2503.4	2388.7	2356.6	2356.6	2380.4	2457.3	2562.2	2700.6	2871.3
22.5°	3165.0	3097.8	2713.2	2509.0	2395.7	2384.6	2366.4	2425.1	2541.2	2707.6	2928.6
25°	3716.0	3683.8	3097.8	2829.3	2595.7	2559.4	2439.1	2460.1	2584.5	2783.1	3085.2
27.5°	4226.5	4170.5	3602.7	3295.0	2965.0	2909.0	2654.5	2569.2	2688.0	2923.0	3311.8
30°	4524.4	4486.6	4121.6	3827.9	3434.9	3363.5	2998.5	2784.5	2872.7	3153.8	3633.5
32.5°	4848.8	4826.4	4641.8	4374.7	3944.0	3861.4	3443.3	3135.6	3155.2	3460.0	4020.9
35°	5163.5	5192.9	5088.0	4892.2	4492.2	4415.3	4040.5	3594.3	3503.4	3804.1	4434.8
37.5°	5541.1	5548.1	5482.4	5355.1	5068.4	5005.5	4696.4	4083.8	3882.4	4170.5	4834.8
40°	6294.9	6184.5	5927.1	5826.4	5655.8	5616.6	5264.2	4532.7	4234.9	4546.7	5212.5
42.5°	7110.3	6938.3	6535.5	6370.5	6301.9	6265.6	5736.9	4832.0	4564.9	4922.9	5583.1
45°	7767.6	7627.8	7233.4	7029.2	7037.6	6978.8	6149.5	5099.2	4922.9	5300.6	5997.0
47.5°	8415.2	8181.6	7739.7	7710.3	7808.2	7721.5	6543.9	5366.3	5296.4	5711.7	6411.0
50°	8457.1	8244.5	8065.5	8300.5	8468.3	8360.6	6901.9	5715.9	5683.8	6209.6	6945.3
52.5°	7946.6	7915.9	8188.6	8584.4	8862.7	8766.2	7194.2	6075.4	6079.6	6832.0	7595.6
55°	7760.6	7721.5	8048.7	8535.4	8911.7	8854.3	7412.4	6480.9	6518.7	7587.2	8293.5
57.5°	8073.9	7976.0	8040.3	8443.1	8797.0	8763.4	7639.0	6931.3	6999.8	8457.1	8938.2
60°	9045.9	8845.9	8504.7	8580.2	8801.2	8781.6	7963.4	7433.4	7548.1	9363.4	9346.6
62.5°	10501.8	10275.3	9580.2	9244.5	9195.6	9157.8	8499.1	8050.1	8107.5	10017.9	9108.9
65°	12099.0	11855.6	11029.1	10479.4	10191.3	10110.2	9363.4	8794.2	8434.7	10016.5	8183.0
67.5°	13891.9	13634.6	12810.9	12286.4	11974.5	11836.1	10766.1	9395.6	8328.5	9169.0	6548.1
70°	15728.3	15483.5	15105.9	15289.1	15426.2	15215.0	12975.9	9595.6	7564.8	7188.6	4397.1
72.5°	14753.5	14733.9	15020.6	16757.6	19399.5	19441.4	15182.8	9030.5	5844.6	4272.6	2344.0
73°	13848.6	13931.1	14462.6	16540.8	19739.3	19753.3	15226.2	8738.2	5366.3	3681.0	2058.7
75°	7174.6	7734.1	9706.0	13412.2	18277.8	18343.6	13422.0	6615.2	3198.5	2044.7	1387.4
77.5°	1921.6	1896.5	3127.2	6534.1	12185.7	12099.0	8480.9	3202.7	1532.8	1282.5	973.4
80°	658.7	667.1	1064.3	2390.1	5688.0	5890.8	3681.0	1397.2	1008.4	893.7	689.5
82.5°	335.7	346.8	556.6	1016.8	2379.0	2328.6	1184.6	822.4	675.5	542.6	386.0
85°	179.0	184.6	306.3	527.3	872.7	882.5	416.8	439.1	429.4	307.7	190.2
87.5°	88.1	90.9	146.8	232.2	323.1	311.9	145.5	190.2	211.2	173.4	104.9
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°	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2	3334.2
2.5°	3311.8	3311.8	3330.0	3360.8	3383.1	3404.1	3418.1	3440.5	3453.1	3451.7	3450.3
5°	3289.4	3303.4	3339.8	3377.5	3402.7	3419.5	3419.5	3429.3	3429.3	3425.1	3419.5
7.5°	3237.7	3261.5	3314.6	3348.2	3355.2	3337.0	3300.6	3272.6	3237.7	3219.5	3212.5
10°	3155.2	3185.9	3253.1	3268.4	3232.1	3167.7	3079.6	3004.1	2937.0	2906.2	2896.4
12.5°	3074.0	3114.6	3177.5	3153.8	3067.1	2941.2	2805.5	2702.0	2626.5	2597.1	2587.3
15°	3006.9	3055.9	3104.8	3030.7	2879.6	2704.8	2555.2	2458.7	2401.3	2379.0	2373.4
17.5°	2962.2	3019.5	3036.3	2897.8	2688.0	2492.2	2359.4	2296.4	2271.3	2261.5	2258.7
20°	2965.0	3029.3	2988.7	2769.2	2503.4	2306.2	2218.1	2199.9	2199.9	2199.9	2198.5
22.5°	3041.9	3097.8	2969.2	2648.9	2325.8	2149.6	2111.8	2127.2	2138.4	2138.4	2137.0
25°	3201.3	3232.1	2983.1	2532.8	2159.4	2013.9	2015.3	2044.7	2054.5	2054.5	2051.7
27.5°	3444.7	3419.5	3008.3	2404.1	1995.8	1890.9	1910.4	1937.0	1944.0	1939.8	1938.4
30°	3749.6	3648.9	3029.3	2253.1	1841.9	1776.2	1793.0	1808.3	1802.7	1793.0	1791.6
32.5°	4090.8	3882.4	3016.7	2083.9	1706.2	1657.3	1667.1	1675.5	1667.1	1643.3	1643.3
35°	4429.3	4093.6	2948.2	1899.3	1598.6	1542.6	1541.2	1567.8	1566.4	1538.4	1539.8
37.5°	4725.7	4260.0	2815.3	1730.0	1506.3	1458.7	1464.3	1481.1	1489.5	1451.7	1447.5
40°	4984.5	4374.7	2627.9	1586.0	1432.1	1434.9	1419.5	1393.0	1383.2	1366.4	1363.6
42.5°	5227.8	4454.4	2429.3	1465.7	1394.4	1426.5	1374.8	1311.9	1285.3	1300.7	1310.5
45°	5467.0	4543.9	2237.7	1366.4	1346.8	1401.4	1330.0	1260.1	1229.3	1236.3	1246.1
47.5°	5759.3	4668.4	2006.9	1260.1	1274.1	1355.2	1302.1	1226.5	1180.4	1152.4	1144.0
50°	6143.9	4848.8	1707.6	1145.4	1197.2	1304.9	1278.3	1177.6	1127.2	1071.3	1057.3
52.5°	6625.0	5019.4	1405.6	1053.1	1134.2	1261.5	1239.1	1135.6	1074.1	1007.0	995.8
55°	7104.7	5043.2	1145.4	973.4	1062.9	1202.8	1191.6	1102.1	1015.4	960.8	949.6
57.5°	7440.4	4818.1	970.6	906.3	994.4	1130.0	1148.2	1061.5	966.4	924.5	917.5
60°	7446.0	4279.6	864.3	861.5	942.6	1067.1	1103.5	1014.0	935.6	907.7	902.1
62.5°	6854.4	3448.9	795.8	828.0	904.9	1015.4	1069.9	987.4	928.6	917.5	911.9
65°	5745.3	2548.2	741.2	797.2	869.9	972.0	1041.9	979.0	925.8	921.7	917.5
67.5°	4241.8	1746.8	695.1	758.0	830.7	927.2	1015.4	966.4	909.1	925.8	920.3
70°	2668.5	1166.4	651.7	713.3	779.0	875.5	980.4	944.0	888.1	878.3	860.1
72.5°	1506.3	843.3	600.0	655.9	711.9	807.0	932.8	906.3	840.5	801.4	783.2
73°	1360.8	798.6	587.4	641.9	696.5	793.0	921.7	895.1	826.6	783.2	766.4
75°	995.8	653.1	530.1	584.6	632.2	728.7	868.5	839.1	765.0	713.3	702.1
77.5°	721.7	503.5	455.9	504.9	546.8	639.1	788.8	755.2	682.5	654.5	643.3
80°	520.3	381.8	377.6	425.2	461.5	555.2	703.5	668.5	598.6	681.1	662.9
82.5°	310.5	244.7	276.9	330.1	367.8	465.7	611.2	570.6	503.5	509.1	433.6
85°	148.2	138.5	172.0	216.8	243.4	318.9	509.1	476.9	402.8	330.1	323.1
87.5°	65.7	62.9	82.5	96.5	130.1	191.6	348.2	309.1	292.3	174.8	137.1
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)