

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: P196306

Luminaire Tested: **NAV-AF-04-D-UNV-T3-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196306
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20169.5 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

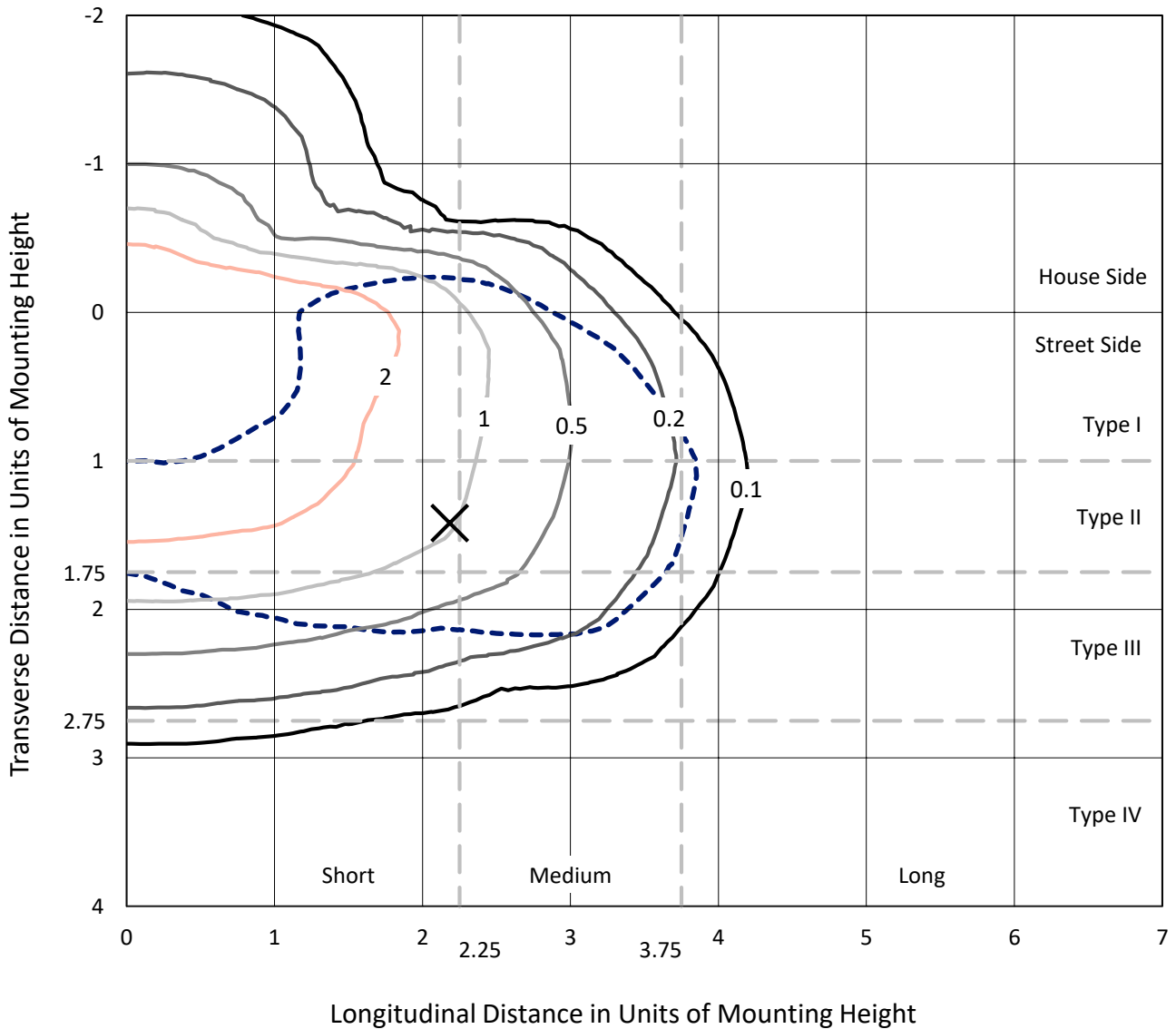
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196306
CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

Iso-Footcandle Lines of Horizontal Illumination

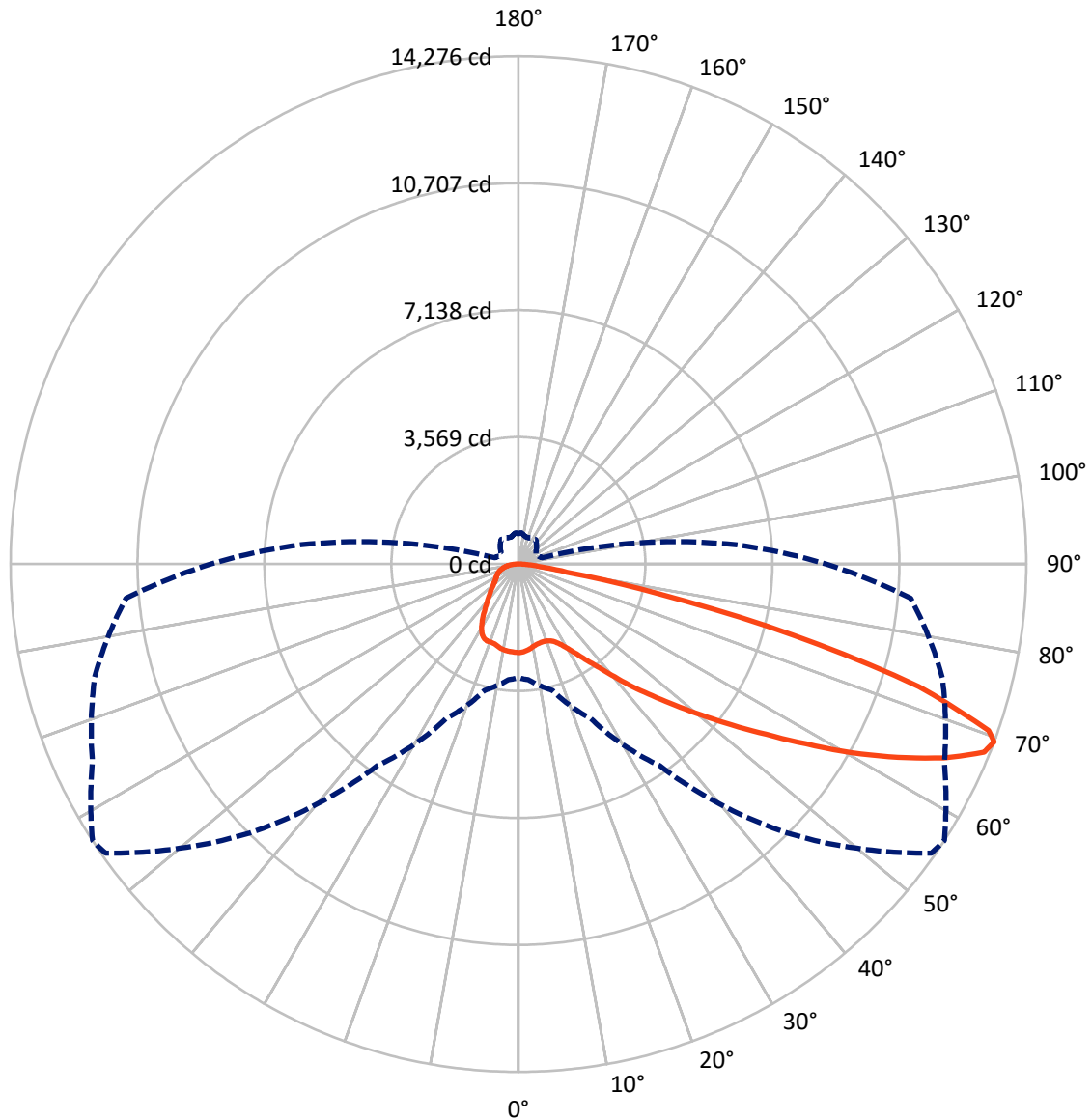
× Max cd
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc
Type III - Short - Semi-Cutoff

REPORT NUMBER: P196306
CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P196306

CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4450.7	0.0	4450.7
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	15718.8	0.0	15718.8
	% Fixture	77.9	0.0	77.9
Total	Lumens	20169.5	0.0	20169.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.3	1.2
10°-20°	663.4	3.3
20°-30°	1103.5	5.5
30°-40°	1802.0	8.9
40°-50°	3041.4	15.1
50°-60°	4731.0	23.5
60°-70°	5635.6	27.9
70°-80°	2625.4	13.0
80°-90°	333.9	1.7
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°	20169.5	100.0
0°-180°	20169.5	100.0



REPORT NUMBER: P196306

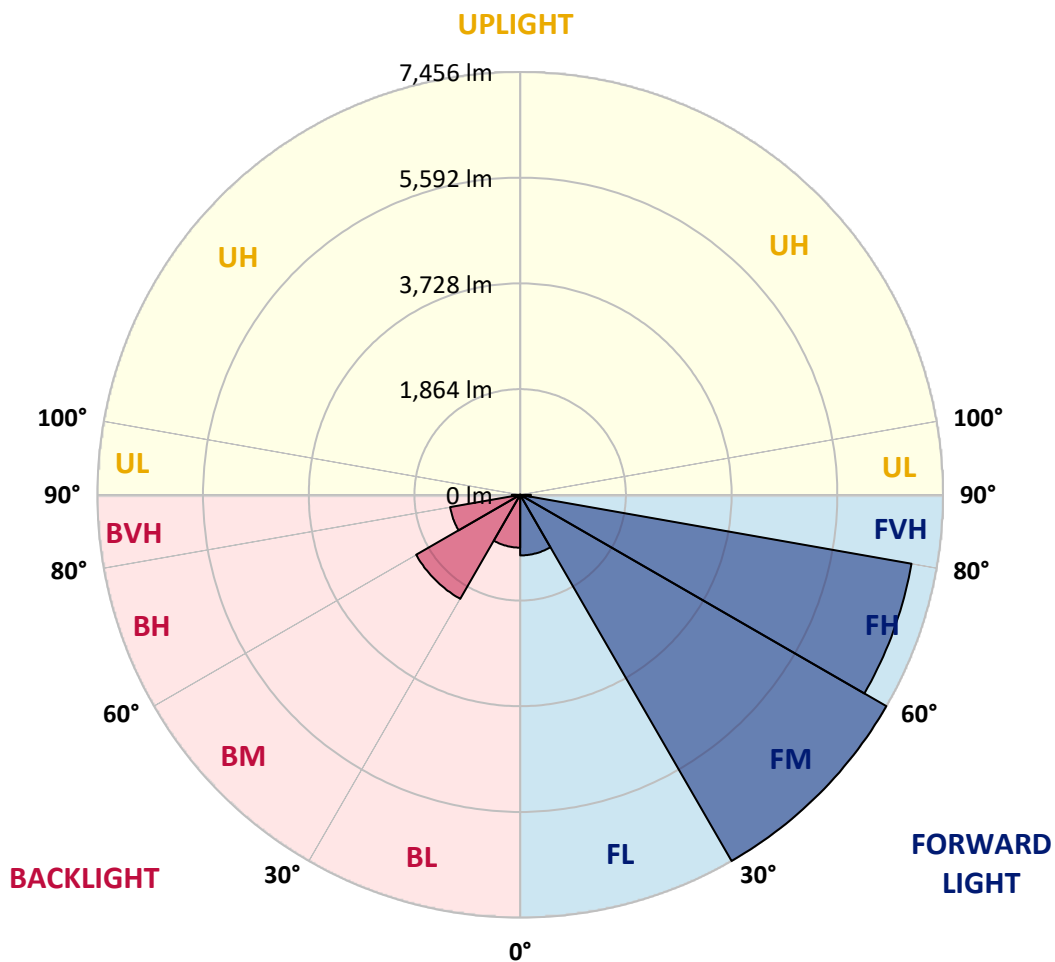
CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1068.1	5.3			
FM	(30°-60°)	7456.1	37.0			
FH	(60°-80°)	7006.9	34.7			G3/7500
FVH	(80°-90°)	187.7	0.9			G2/225
BL	(0°-30°)	932.1	4.6	B2/1000		
BM	(30°-60°)	2118.3	10.5	B2/2500		
BH	(60°-80°)	1254.1	6.2	B3/2500		G3/2500
BVH	(80°-90°)	146.2	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-G3

Type III Short





REPORT NUMBER: P196306

CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1
2.5°	2477.9	2477.9	2484.4	2484.4	2484.4	2481.8	2474.1	2476.7	2471.4	2467.6	2461.1
5°	2427.6	2430.1	2437.9	2440.5	2444.3	2445.7	2445.7	2444.3	2445.7	2445.7	2441.8
7.5°	2357.8	2360.5	2369.5	2374.7	2386.2	2396.6	2401.8	2401.8	2408.2	2413.3	2414.7
10°	2315.2	2315.2	2320.4	2320.4	2329.5	2334.6	2351.4	2350.1	2368.1	2385.0	2392.7
12.5°	2310.0	2310.0	2307.5	2298.5	2293.3	2292.0	2308.8	2311.4	2338.5	2368.1	2382.4
15°	2326.9	2326.9	2319.1	2301.0	2281.7	2272.6	2289.4	2294.6	2324.2	2359.1	2381.1
17.5°	2381.1	2379.8	2363.0	2326.9	2293.3	2279.0	2284.2	2289.4	2316.6	2356.6	2383.7
20°	2501.2	2501.2	2465.0	2399.1	2341.0	2307.5	2299.7	2303.6	2323.0	2360.5	2395.3
22.5°	2711.6	2715.5	2651.0	2542.5	2443.1	2372.0	2341.0	2344.9	2354.0	2390.1	2428.9
25°	3021.6	3011.3	2919.5	2765.9	2611.0	2489.6	2426.3	2430.1	2430.1	2463.8	2503.8
27.5°	3349.6	3352.1	3220.5	3055.1	2851.1	2670.3	2569.7	2568.3	2567.0	2599.3	2642.0
30°	3720.2	3721.4	3569.1	3378.0	3144.2	2913.1	2762.0	2760.7	2749.1	2789.2	2844.6
32.5°	4125.6	4124.3	3947.4	3731.7	3472.2	3210.1	3013.8	3012.5	3003.5	3057.7	3124.9
35°	4574.9	4574.9	4399.3	4133.3	3853.1	3561.3	3334.0	3332.8	3337.9	3411.5	3474.8
37.5°	5116.0	5127.6	4915.9	4593.0	4287.0	3975.8	3711.1	3703.4	3664.6	3788.6	3893.1
40°	5680.2	5712.6	5493.0	5116.0	4785.5	4464.0	4172.1	4166.9	4133.3	4265.1	4434.2
42.5°	6291.0	6364.6	6120.6	5735.8	5375.5	5028.2	4735.0	4720.8	4591.7	4797.0	5061.8
45°	7091.6	7139.4	6785.6	6436.9	6097.4	5700.9	5352.3	5276.1	5147.0	5410.4	5753.9
47.5°	7636.5	7613.3	7392.5	7158.8	6940.5	6560.9	6025.1	5928.2	5770.7	6119.3	6497.7
50°	7974.8	7991.6	7867.7	7856.1	7844.4	7579.8	6784.3	6668.1	6486.0	6899.2	7340.8
52.5°	8198.2	8122.0	8144.0	8407.4	8726.4	8599.8	7643.0	7513.9	7326.7	7739.9	8238.2
55°	8105.2	8004.6	8207.2	8726.4	9476.6	9505.0	8585.6	8452.6	8292.6	8633.4	9317.8
57.5°	7720.5	7770.8	8091.0	8812.9	9989.2	10315.9	9669.0	9533.4	9218.3	9564.4	10343.1
60°	7179.5	7281.5	7770.8	8676.1	10348.2	10947.3	10858.2	10767.9	10225.5	10470.8	11419.9
62.5°	6598.3	6699.1	7300.8	8442.3	10186.7	11506.5	12025.5	11970.1	11337.3	11343.8	12103.0
65°	5739.7	5781.0	6395.6	7804.4	9738.7	12011.4	13194.1	13145.1	12400.0	12088.8	12294.1
67.5°	4334.8	4386.4	4891.3	6160.6	8375.1	11737.6	14127.8	14120.0	13039.1	12365.1	11839.6
69°	3201.0	3264.3	3676.3	4782.8	6925.1	10694.2	14171.7	14276.2	13212.2	12336.8	11071.3
70°	2342.4	2414.7	2795.6	3796.3	5768.1	9542.5	13795.9	14020.6	13146.4	12157.3	10472.2
72.5°	995.5	1020.1	1207.3	1713.5	2926.0	5753.9	11299.8	11772.4	11873.2	10893.1	8181.5
75°	623.7	631.5	705.0	879.3	1301.6	2379.8	7317.6	7961.9	8864.5	8451.3	5477.6
77.5°	470.0	476.5	519.0	605.6	808.3	888.4	3394.8	4048.1	5077.2	4971.3	2725.9
80°	360.3	364.2	392.5	440.3	569.5	556.5	1101.4	1384.3	2118.9	1869.7	964.5
82.5°	282.7	284.1	308.6	317.6	397.7	374.5	552.7	615.9	856.1	711.5	471.3
85°	250.5	254.4	279.0	232.4	254.4	226.0	303.4	329.3	454.5	428.7	178.2
87.5°	127.9	134.3	233.7	198.9	127.9	107.2	133.0	143.3	184.6	200.2	86.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196306

CATALOG NUMBER: NAV-AF-04-D-UNV-T3-800

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1	2492.1
2.5°	2462.4	2463.8	2467.6	2474.1	2484.4	2497.3	2512.8	2528.3	2537.3	2543.8	2541.2
5°	2441.8	2443.1	2450.8	2462.4	2475.3	2494.8	2520.6	2539.9	2554.1	2563.2	2561.9
7.5°	2416.0	2419.8	2435.3	2448.2	2466.3	2481.8	2502.4	2520.6	2534.8	2543.8	2542.5
10°	2396.6	2400.5	2419.8	2436.6	2452.1	2454.7	2450.8	2445.7	2444.3	2450.8	2448.2
12.5°	2387.6	2395.3	2413.3	2425.0	2418.6	2394.0	2365.6	2354.0	2350.1	2363.0	2364.3
15°	2390.1	2396.6	2412.1	2404.3	2369.5	2328.1	2312.7	2321.7	2329.5	2337.2	2338.5
17.5°	2396.6	2400.5	2404.3	2375.9	2326.9	2299.7	2294.6	2285.6	2262.3	2249.4	2248.1
20°	2408.2	2413.3	2406.9	2361.7	2317.8	2281.7	2219.7	2164.2	2111.3	2082.8	2071.2
22.5°	2448.2	2452.1	2432.8	2388.8	2321.7	2204.2	2078.9	1983.4	1902.1	1858.1	1841.3
25°	2527.0	2533.4	2506.3	2450.8	2275.2	2069.9	1893.0	1763.9	1661.9	1608.9	1594.7
27.5°	2665.2	2671.6	2642.0	2497.3	2166.7	1890.4	1676.1	1548.2	1460.5	1415.3	1408.8
30°	2871.7	2880.8	2853.7	2496.0	2001.5	1661.9	1464.3	1389.4	1339.0	1308.0	1306.7
32.5°	3158.5	3192.0	3080.9	2452.1	1797.4	1430.7	1304.2	1278.4	1253.8	1233.2	1233.2
35°	3522.5	3601.3	3305.7	2360.5	1572.8	1273.2	1215.1	1190.5	1159.5	1137.6	1135.1
37.5°	3957.7	4080.3	3465.8	2197.7	1379.0	1197.0	1160.8	1120.8	1071.7	1029.1	1018.9
40°	4555.6	4583.9	3544.5	1933.1	1234.5	1155.7	1110.5	1060.1	998.2	950.3	945.2
42.5°	5156.0	5063.1	3529.0	1648.9	1151.8	1118.2	1058.9	1003.3	947.8	907.8	907.8
45°	5839.1	5481.4	3411.5	1363.6	1077.0	1075.6	1011.1	958.1	915.5	885.8	879.3
47.5°	6492.5	5857.2	3208.8	1153.1	999.4	1033.0	980.1	937.4	898.8	870.3	865.1
50°	7285.4	6292.4	2993.2	1005.9	924.5	995.5	967.2	945.2	907.8	858.7	853.6
52.5°	8073.0	6801.1	2826.6	894.9	858.7	965.9	974.9	977.5	942.6	847.1	840.7
55°	8918.8	7344.7	2651.0	808.3	804.4	951.7	993.0	990.4	973.6	849.7	839.3
57.5°	9723.2	7890.9	2388.8	747.7	761.9	937.4	996.9	955.5	925.9	862.6	845.8
60°	10389.5	8342.9	2004.1	705.0	725.7	909.1	971.0	909.1	858.7	860.0	844.4
62.5°	10713.7	8469.4	1532.7	655.9	696.0	862.6	933.5	874.2	827.7	865.1	856.1
65°	10467.0	8109.1	1092.4	610.8	659.8	808.3	911.7	844.4	812.2	891.0	880.7
67.5°	9581.2	7127.8	792.8	570.7	625.0	752.8	870.3	817.3	796.7	910.3	887.1
69°	8639.8	6154.2	686.9	547.5	600.5	723.1	843.2	803.1	785.1	883.2	849.7
70°	7857.4	5403.9	634.0	533.3	579.8	706.3	822.6	794.1	773.5	851.0	810.9
72.5°	5633.8	3492.9	533.3	490.7	525.6	668.9	777.3	760.6	729.6	768.3	742.5
75°	3403.8	1823.3	453.3	446.8	468.7	617.2	724.4	703.8	672.8	676.6	663.7
77.5°	1563.7	841.9	379.6	395.2	409.3	552.7	659.8	636.6	608.1	597.8	599.1
80°	685.7	491.9	317.6	337.1	344.7	497.2	590.1	564.3	533.3	588.8	546.3
82.5°	370.6	285.4	248.0	260.9	282.7	432.6	512.6	479.0	449.4	522.9	422.3
85°	149.8	145.9	167.9	180.8	196.3	311.2	428.7	393.8	357.7	320.2	312.5
87.5°	64.5	69.8	82.7	87.8	104.5	193.6	288.0	251.7	253.1	217.0	213.1
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)