

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: P197157

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197157
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-SL4-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15469 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

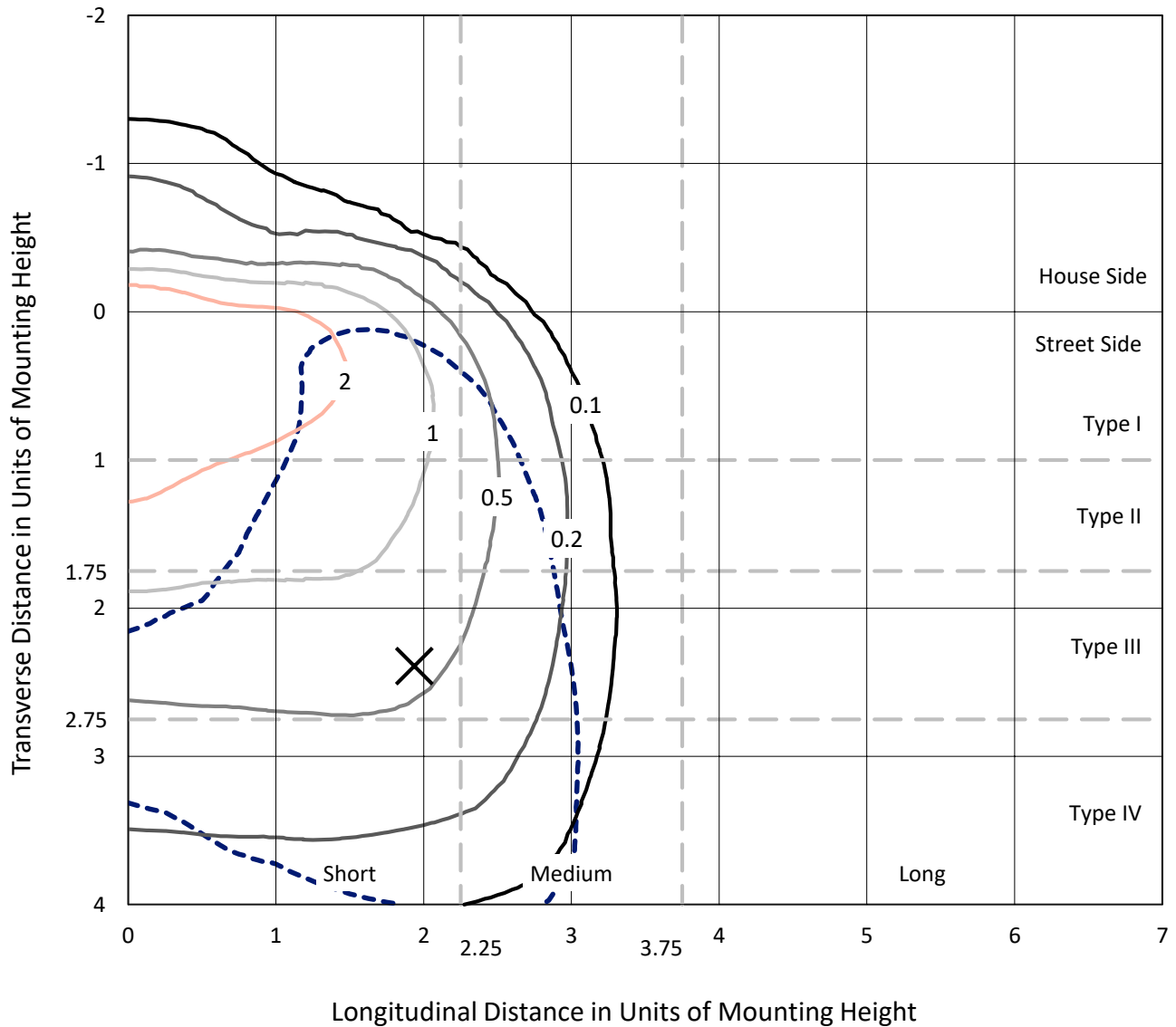
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

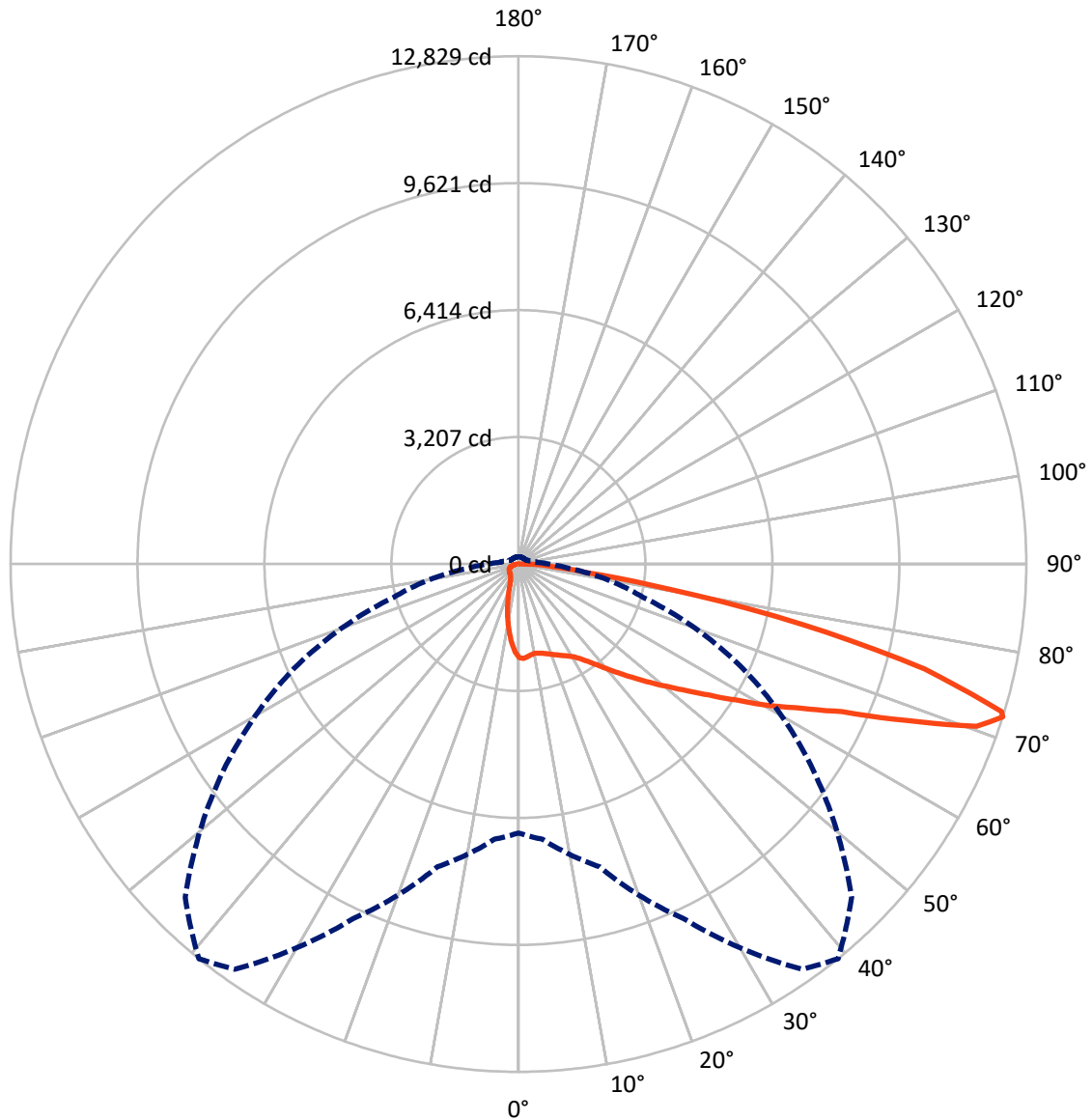
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1773.7	0.0	1773.7
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	13695.3	0.0	13695.3
	% Fixture	88.5	0.0	88.5
Total	Lumens	15469.0	0.0	15469.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.0	1.3
10°-20°	510.1	3.3
20°-30°	795.0	5.1
30°-40°	1224.0	7.9
40°-50°	1995.4	12.9
50°-60°	3100.7	20.0
60°-70°	4150.2	26.8
70°-80°	2984.6	19.3
80°-90°	505.9	3.3
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°	15469.0	100.0
0°-180°	15469.0	100.0



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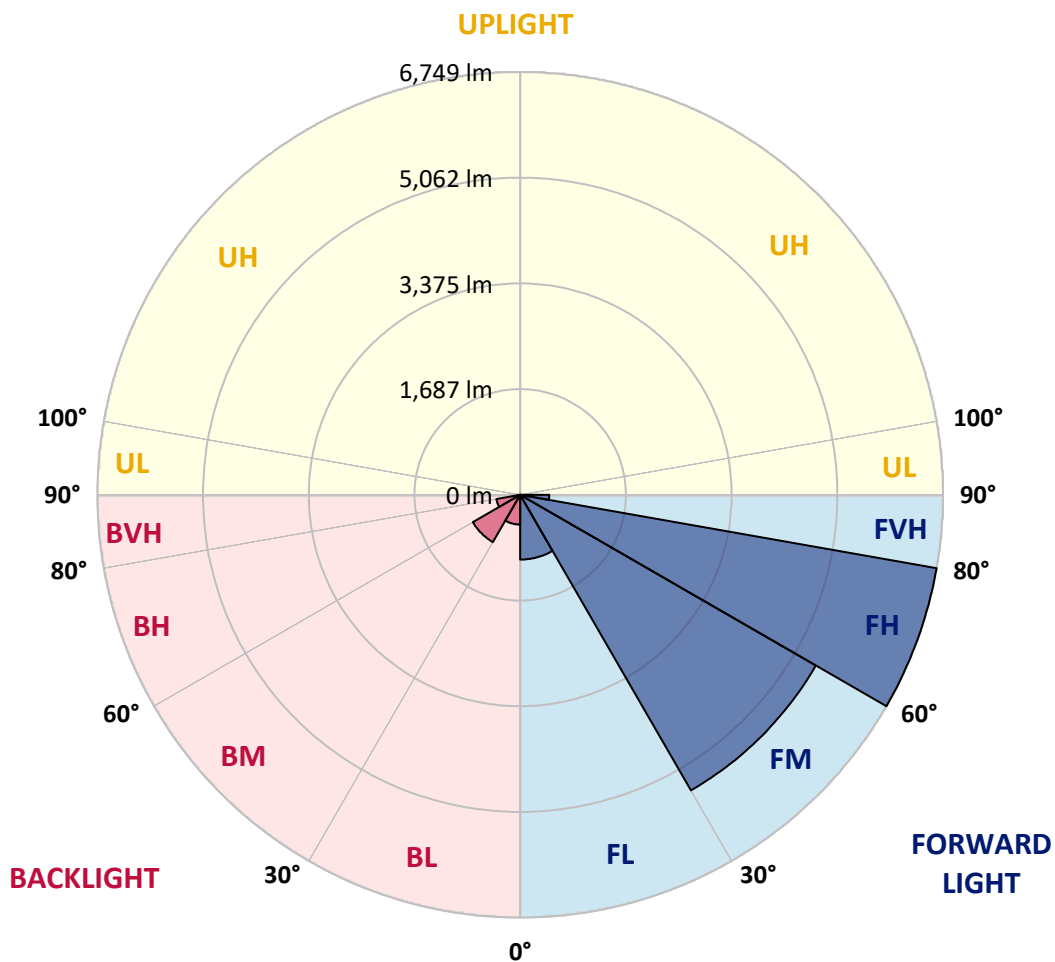
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1033.3	6.7			
FM	(30°-60°)	5448.5	35.2			
FH	(60°-80°)	6749.4	43.6			G3/7500
FVH	(80°-90°)	464.1	3.0			G3/500
BL	(0°-30°)	474.8	3.1	B1/500		
BM	(30°-60°)	871.7	5.6	B1/1000		
BH	(60°-80°)	385.4	2.5	B1/500		G1/500
BVH	(80°-90°)	41.8	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4
2.5°	2413.3	2414.3	2411.2	2401.9	2393.5	2389.4	2382.1	2369.7	2353.0	2341.6	2332.3
5°	2390.4	2393.5	2391.5	2375.9	2361.4	2353.0	2341.6	2324.0	2302.2	2292.8	2271.0
7.5°	2372.8	2374.9	2368.6	2351.0	2322.9	2312.6	2291.8	2268.9	2249.2	2235.7	2209.7
10°	2360.3	2362.4	2357.2	2339.5	2308.4	2295.9	2271.0	2246.1	2220.1	2203.5	2174.4
12.5°	2342.7	2346.8	2346.8	2338.5	2317.7	2309.4	2284.5	2257.5	2233.6	2216.0	2179.6
15°	2339.5	2344.7	2354.1	2353.0	2346.8	2340.6	2320.9	2293.9	2273.1	2252.3	2207.7
17.5°	2365.5	2376.9	2395.6	2401.9	2397.7	2384.2	2361.4	2336.4	2313.6	2293.9	2238.8
20°	2430.9	2437.2	2465.2	2477.7	2456.9	2437.2	2407.0	2374.9	2354.1	2338.5	2267.9
22.5°	2529.6	2537.9	2560.7	2561.8	2518.2	2494.3	2455.9	2416.4	2396.7	2390.4	2307.4
25°	2687.4	2685.3	2691.6	2665.6	2586.7	2558.7	2511.9	2466.2	2452.7	2465.2	2365.5
27.5°	2876.4	2871.2	2851.5	2784.0	2664.6	2628.2	2572.2	2531.7	2531.7	2560.7	2444.4
30°	3094.5	3089.3	3024.9	2911.7	2757.0	2715.5	2656.3	2613.7	2635.5	2691.6	2551.4
32.5°	3325.0	3306.3	3216.0	3064.4	2888.9	2843.2	2786.1	2742.5	2784.0	2879.5	2705.1
35°	3542.0	3531.6	3420.5	3240.9	3059.2	3020.7	2981.3	2927.3	2993.8	3142.2	2922.1
37.5°	3766.3	3758.0	3622.0	3430.9	3266.9	3240.9	3207.7	3170.3	3277.2	3472.5	3216.0
40°	4016.6	4000.0	3828.6	3637.6	3508.8	3496.3	3478.7	3468.3	3640.7	3931.4	3587.7
42.5°	4300.1	4267.9	4046.7	3865.0	3772.6	3782.9	3773.6	3815.1	4078.9	4461.0	4030.1
45°	4624.1	4559.7	4263.7	4106.9	4064.4	4105.9	4125.6	4231.5	4597.1	5072.7	4524.4
47.5°	4927.3	4844.2	4501.5	4369.7	4393.5	4465.2	4521.3	4708.2	5165.1	5677.0	5029.0
50°	5206.6	5113.2	4755.9	4641.7	4758.0	4859.8	4976.1	5239.8	5769.4	6299.0	5492.2
52.5°	5413.3	5345.8	5010.4	4938.7	5176.5	5311.5	5497.4	5830.7	6380.0	6892.0	5905.5
55°	5573.2	5536.8	5258.5	5279.3	5650.0	5843.2	6068.5	6451.7	7025.9	7423.6	6237.8
57.5°	5758.0	5731.0	5542.0	5690.5	6237.8	6480.7	6746.6	7172.3	7640.7	7892.0	6498.4
60°	5953.2	5953.2	5857.7	6185.8	6973.0	7251.3	7516.0	7847.3	8253.3	8313.6	6604.3
62.5°	6100.7	6139.1	6173.4	6713.4	7670.8	8016.6	8307.3	8625.1	8887.8	8521.2	6355.1
65°	6314.6	6396.6	6589.8	7322.9	8534.7	8987.5	9380.0	9646.9	9401.8	8356.1	5542.0
67.5°	6682.2	6803.7	7214.9	8230.5	9857.7	10535.8	10916.9	10455.8	9301.1	7316.7	4245.0
70°	7013.5	7184.8	7887.8	9382.1	11577.3	12281.3	12105.8	10267.8	8100.7	5363.4	2611.6
72°	6793.3	6980.2	7919.0	9883.6	12496.3	12828.6	11903.4	9099.6	6259.6	3273.1	1287.6
72.5°	6649.0	6843.2	7818.2	9871.2	12521.2	12759.0	11621.9	8635.5	5682.2	2863.9	1041.5
75°	5554.5	5720.6	6722.7	8748.6	11034.2	10598.1	9069.5	5588.7	2611.6	925.2	535.8
77.5°	3627.2	3753.9	4635.5	6061.2	7728.9	7309.4	5520.2	2616.8	979.2	561.8	402.9
80°	1822.4	1912.8	2480.8	3186.9	4171.3	3838.0	2548.3	1265.8	655.2	406.0	316.7
82.5°	1267.9	1351.0	1708.2	1627.2	1743.5	1687.4	1198.3	1056.1	490.1	256.5	166.1
85°	1063.3	1149.5	1413.3	1159.9	949.1	865.0	858.8	997.9	324.0	126.7	140.2
87.5°	927.3	1058.1	1166.1	847.3	651.1	574.2	632.4	914.8	102.8	69.6	42.6
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°	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4	2362.4
2.5°	2316.7	2313.6	2298.0	2274.1	2256.5	2245.1	2223.2	2222.2	2224.3	2205.6	2212.9
5°	2251.3	2238.8	2198.3	2143.3	2098.6	2056.1	2009.3	1993.8	1980.3	1952.2	1955.3
7.5°	2182.7	2160.9	2090.3	2000.0	1913.8	1834.9	1757.0	1718.6	1689.5	1653.2	1653.2
10°	2142.3	2108.0	2000.0	1868.1	1731.0	1615.8	1499.5	1429.9	1379.0	1332.3	1329.2
12.5°	2140.2	2088.3	1937.7	1756.0	1568.0	1406.0	1247.1	1140.2	1064.4	1009.3	1004.1
15°	2156.8	2084.1	1885.8	1651.1	1414.3	1203.5	1007.3	871.2	774.7	713.4	707.2
17.5°	2171.3	2078.9	1829.7	1541.0	1264.8	1008.3	790.2	649.0	557.6	507.8	502.6
20°	2184.8	2067.5	1758.0	1424.7	1099.7	825.5	617.9	503.6	443.4	415.4	412.3
22.5°	2204.6	2057.1	1683.3	1293.9	937.7	671.9	509.9	427.8	395.6	382.1	380.1
25°	2236.7	2058.1	1610.6	1159.9	789.2	559.7	441.3	390.4	372.8	363.4	363.4
27.5°	2283.5	2070.6	1538.9	1023.9	663.5	482.9	400.8	370.7	359.3	352.0	349.9
30°	2352.0	2093.4	1463.1	895.1	563.9	429.9	376.9	358.3	348.9	342.7	341.6
32.5°	2451.7	2133.9	1383.2	777.8	488.1	392.5	359.3	347.9	340.6	335.4	334.4
35°	2600.2	2205.6	1305.3	678.1	434.1	365.5	344.8	335.4	331.3	329.2	328.1
37.5°	2818.3	2320.9	1231.6	600.2	398.8	347.9	330.2	325.0	322.9	322.9	322.9
40°	3092.4	2472.5	1165.1	545.2	379.0	334.4	319.8	315.7	315.7	316.7	316.7
42.5°	3425.7	2662.5	1108.0	507.8	367.6	325.0	312.6	310.5	309.4	309.4	310.5
45°	3813.1	2886.8	1072.7	478.7	359.3	319.8	307.4	306.3	302.2	300.1	300.1
47.5°	4202.5	3126.7	1070.6	462.1	348.9	313.6	302.2	302.2	293.9	289.7	290.8
50°	4565.9	3341.6	1093.5	457.9	342.7	304.3	297.0	298.0	286.6	281.4	280.4
52.5°	4858.7	3505.7	1121.5	463.1	342.7	295.9	287.6	292.8	280.4	274.1	273.1
55°	5085.1	3619.9	1131.9	474.6	346.8	288.7	279.3	287.6	278.3	270.0	270.0
57.5°	5247.1	3656.3	1087.2	479.7	353.1	287.6	271.0	286.6	281.4	271.0	271.0
60°	5187.9	3445.5	921.1	460.0	352.0	285.6	264.8	288.7	291.8	280.4	280.4
62.5°	4725.8	2882.6	739.4	415.4	334.4	278.3	257.5	286.6	299.1	294.9	292.8
65°	3847.3	2114.2	573.2	362.4	304.3	262.7	242.0	267.9	282.4	286.6	287.6
67.5°	2711.3	1338.5	445.5	308.4	266.9	239.9	224.3	236.8	242.0	244.0	248.2
70°	1482.9	724.8	354.1	259.6	228.5	217.0	205.6	206.6	204.6	202.5	204.6
72°	744.5	473.5	299.1	225.3	202.5	195.2	190.0	186.9	186.9	183.8	184.8
72.5°	640.7	440.3	288.7	217.0	196.3	190.0	185.9	182.8	181.7	179.6	180.7
75°	426.8	348.9	240.9	181.7	167.2	163.0	165.1	162.0	163.0	161.0	162.0
77.5°	344.8	300.1	204.6	153.7	143.3	137.1	141.2	142.3	144.3	142.3	141.2
80°	288.7	255.5	171.3	126.7	119.4	114.2	116.3	123.6	124.6	118.4	117.3
82.5°	186.9	205.6	135.0	98.6	91.4	89.3	94.5	101.8	103.8	95.5	93.5
85°	156.8	165.1	97.6	67.5	60.2	58.2	68.5	75.8	81.0	72.7	70.6
87.5°	43.6	81.0	47.8	32.2	27.0	27.0	33.2	39.5	46.7	47.8	47.8
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)