

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: P270469

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270469
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16007 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

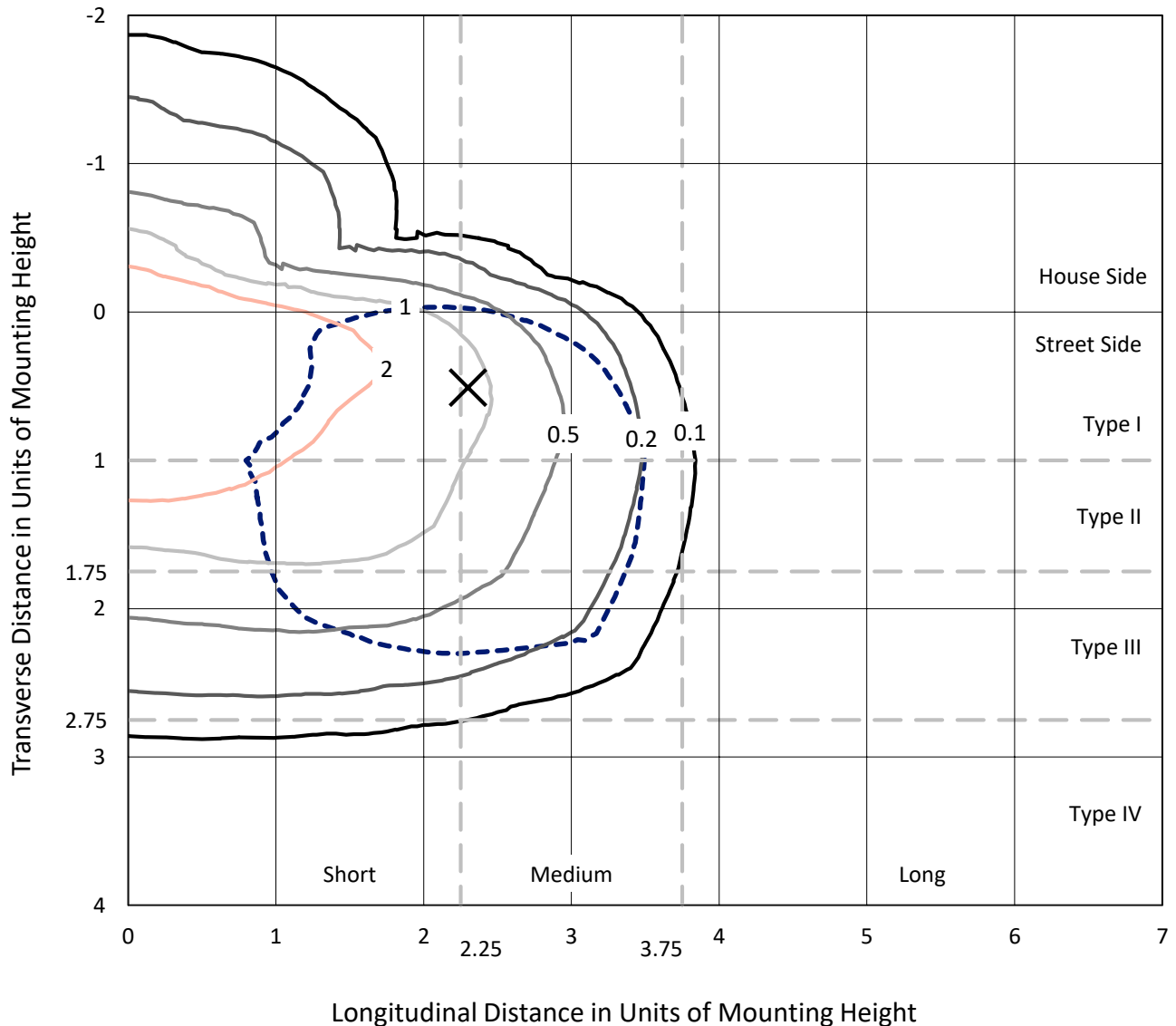
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

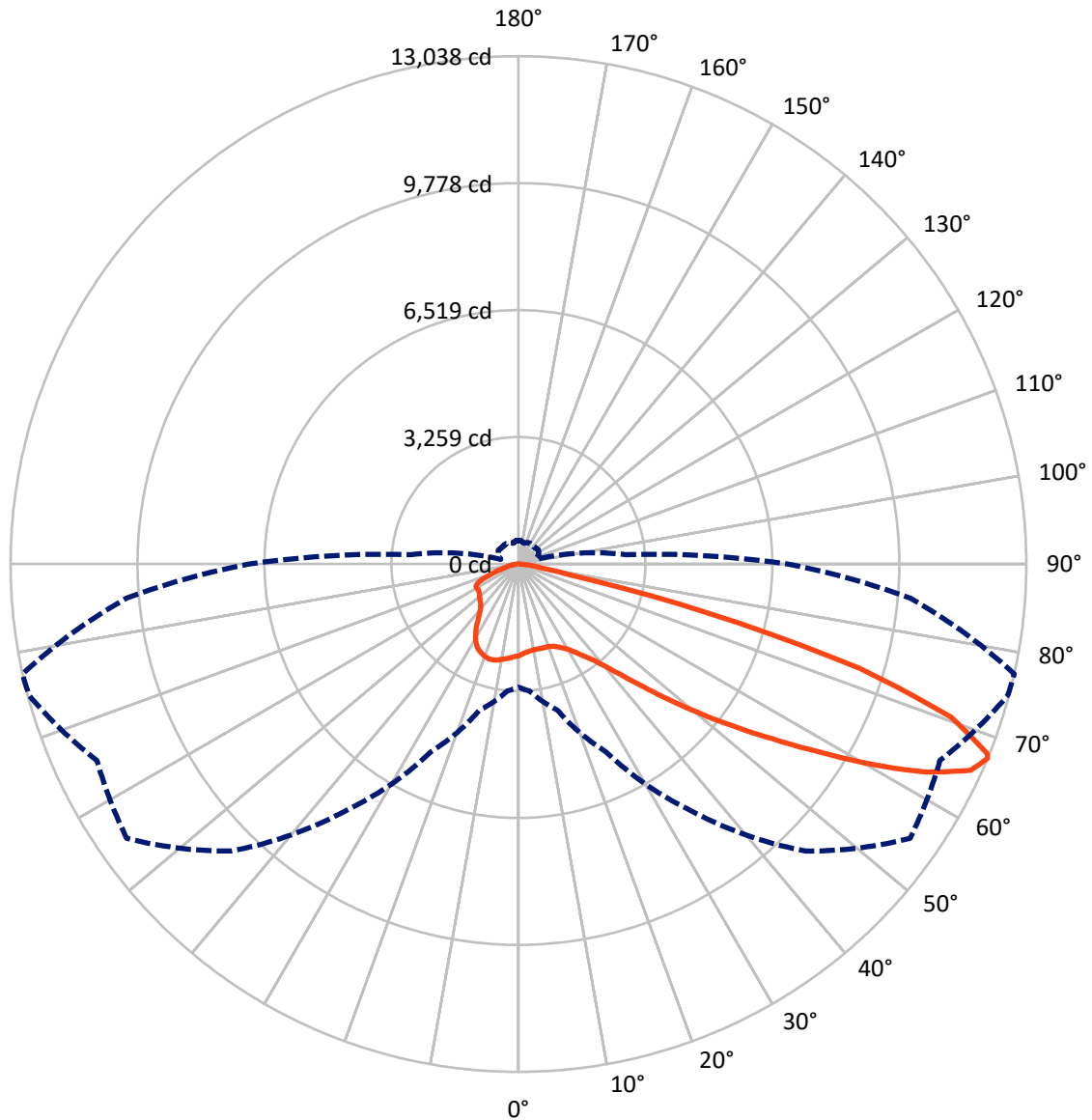
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2750.8	0.0	2750.8
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	13256.2	0.0	13256.2
	% Fixture	82.8	0.0	82.8
Total	Lumens	16007.0	0.0	16007.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.8	1.3
10°-20°	581.1	3.6
20°-30°	987.3	6.2
30°-40°	1579.4	9.9
40°-50°	2431.5	15.2
50°-60°	3373.5	21.1
60°-70°	4500.0	28.1
70°-80°	2141.6	13.4
80°-90°	202.8	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°	16007.0	100.0
0°-180°	16007.0	100.0



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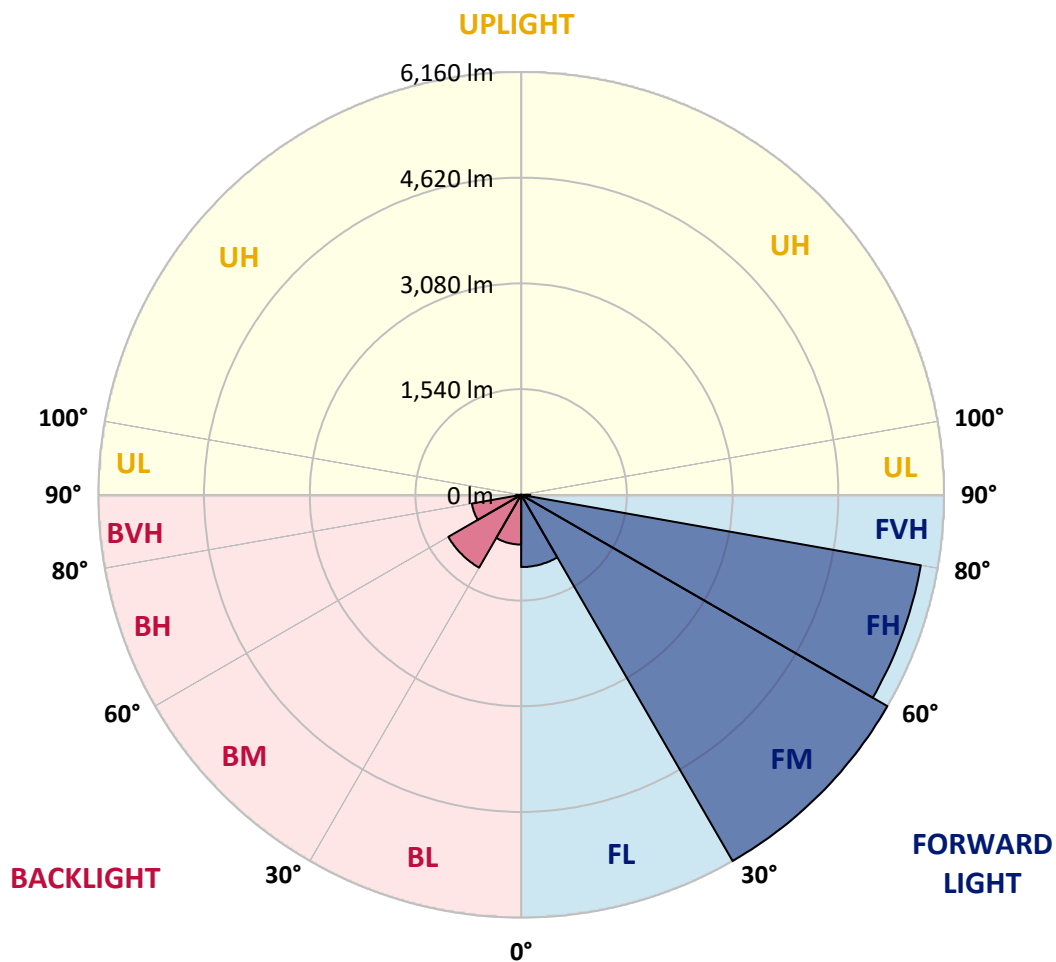
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1052.6	6.6			
FM	(30°-60°)	6159.7	38.5			
FH	(60°-80°)	5912.2	36.9			G3/7500
FVH	(80°-90°)	131.7	0.8			G2/225
BL	(0°-30°)	725.5	4.5	B2/1000		
BM	(30°-60°)	1224.8	7.7	B2/2500		
BH	(60°-80°)	729.4	4.6	B2/1000		G2/1000
BVH	(80°-90°)	71.1	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8
2.5°	2112.5	2122.2	2123.4	2152.0	2164.8	2197.6	2233.1	2264.7	2292.5	2302.4	2320.2
5°	1900.6	1900.6	1903.7	1922.5	1959.1	2011.5	2085.7	2166.8	2252.0	2272.7	2325.2
7.5°	1789.9	1791.8	1793.8	1812.6	1841.3	1887.8	1962.0	2072.7	2214.3	2248.9	2341.0
10°	1799.8	1796.8	1786.9	1783.0	1794.9	1824.5	1888.7	2002.6	2182.6	2236.2	2369.6
12.5°	1955.2	1949.1	1916.5	1869.1	1825.4	1814.5	1859.1	1967.0	2167.8	2236.2	2418.1
15°	2221.2	2225.2	2161.0	2062.0	1948.2	1871.0	1865.1	1954.2	2162.8	2242.0	2474.6
17.5°	2567.5	2569.5	2480.5	2337.0	2148.0	1988.8	1905.7	1954.2	2162.8	2248.0	2529.0
20°	2935.7	2921.7	2820.9	2640.7	2395.4	2152.0	1979.9	1966.0	2168.8	2256.8	2580.4
22.5°	3251.2	3238.4	3132.5	2943.6	2662.5	2344.9	2079.8	2005.6	2201.4	2293.5	2652.7
25°	3527.3	3535.2	3432.3	3219.5	2928.7	2562.5	2229.1	2096.6	2269.7	2359.8	2741.6
27.5°	3862.7	3847.9	3729.1	3526.2	3202.7	2788.2	2416.1	2211.4	2350.9	2439.8	2850.5
30°	4250.5	4243.7	4083.3	3874.6	3504.5	3040.6	2601.2	2335.1	2456.8	2549.7	2987.0
32.5°	4721.5	4720.6	4548.4	4292.1	3843.8	3325.4	2819.8	2504.3	2611.1	2705.1	3168.1
35°	5254.8	5253.7	5075.8	4737.3	4234.7	3641.1	3077.1	2710.0	2802.1	2900.9	3383.8
37.5°	5624.8	5618.9	5526.0	5197.5	4667.1	4008.1	3398.6	2987.0	3018.8	3129.5	3644.1
40°	5696.2	5731.7	5811.9	5617.9	5139.1	4415.8	3721.1	3284.9	3314.6	3457.0	3971.5
42.5°	5618.9	5665.4	5931.6	5985.9	5611.1	4909.4	4124.8	3697.5	3735.1	3912.2	4356.4
45°	5551.6	5592.2	5925.6	6189.9	6077.0	5447.7	4628.4	4201.1	4272.2	4492.0	4795.7
47.5°	5436.8	5474.5	5808.9	6226.4	6343.1	5966.3	5235.1	4806.7	4929.3	5195.4	5296.3
50°	5431.0	5447.7	5649.6	6103.8	6435.2	6360.0	5906.9	5515.1	5703.0	6009.8	5850.4
52.5°	5280.5	5398.3	5581.3	5907.9	6437.2	6589.5	6568.8	6291.6	6581.6	6921.0	6457.9
55°	4360.4	4495.8	5353.8	5811.9	6425.2	6786.4	7173.2	7117.9	7571.0	7928.3	7138.7
57.5°	4071.5	4128.8	4696.8	5840.5	6524.2	7111.9	7777.9	8005.3	8702.9	9092.7	7954.9
60°	3992.2	4052.7	4565.1	5854.4	6792.4	7704.7	8598.0	9007.7	10033.7	10447.3	8882.0
62.5°	3904.3	3982.5	4575.1	5867.3	7263.3	8581.1	9686.5	10095.1	11400.1	11769.1	9750.7
65°	3646.9	3751.0	4392.1	5786.2	7778.9	9681.5	11125.0	11229.0	12529.0	12763.5	10275.2
67°	3159.2	3273.1	3889.4	5317.2	7731.4	10422.6	12275.7	11938.4	13008.9	13037.6	10104.9
67.5°	3004.9	3122.6	3719.3	5122.2	7595.8	10519.5	12479.6	12036.3	13004.9	12973.2	9946.7
70°	2023.3	2155.9	2633.8	3760.8	6092.8	9790.3	12430.0	11734.5	12152.0	11788.9	8545.7
72.5°	1004.2	1008.2	1314.0	2060.0	3691.6	7022.0	10369.1	10038.6	9850.6	9165.0	6271.0
75°	483.8	492.7	620.4	910.3	1556.4	3625.2	7071.4	6773.6	5767.3	4993.6	3138.5
77.5°	369.1	377.9	481.9	592.6	649.0	1182.3	3502.5	2830.6	1671.1	1334.7	884.6
80°	284.9	301.8	406.7	455.1	429.4	473.9	1101.2	866.8	650.1	596.7	438.4
82.5°	222.6	232.5	345.3	345.3	296.8	317.6	512.6	500.6	403.7	364.2	235.4
85°	157.4	177.1	278.0	257.3	194.9	196.9	306.7	293.8	207.8	167.3	92.0
87.5°	70.2	90.0	197.8	168.3	103.8	80.2	125.7	107.8	82.1	63.3	42.5
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°	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8	2355.8
2.5°	2339.9	2355.8	2380.6	2395.4	2415.2	2423.1	2431.1	2444.8	2455.7	2452.7	2447.8
5°	2361.7	2388.5	2419.1	2429.0	2429.0	2419.1	2413.1	2414.1	2411.2	2409.3	2403.2
7.5°	2393.4	2430.1	2451.7	2442.0	2411.2	2372.7	2336.0	2314.3	2293.5	2280.5	2284.6
10°	2437.9	2478.6	2479.5	2435.9	2362.7	2278.6	2206.3	2160.0	2115.4	2095.6	2101.6
12.5°	2502.3	2542.8	2508.2	2414.1	2285.6	2154.0	2021.4	1925.3	1839.3	1818.6	1812.6
15°	2571.5	2603.2	2525.9	2367.8	2174.7	1958.0	1735.4	1591.9	1495.9	1479.1	1473.2
17.5°	2631.9	2649.7	2517.1	2284.6	1999.5	1658.4	1399.0	1302.1	1282.3	1292.2	1292.2
20°	2685.3	2679.4	2478.6	2155.9	1723.6	1325.8	1175.4	1174.4	1201.2	1225.8	1227.9
22.5°	2752.5	2706.1	2417.2	1965.0	1394.1	1106.2	1080.4	1106.2	1135.8	1163.6	1166.4
25°	2832.7	2735.8	2335.1	1692.9	1121.1	1004.2	1015.2	1037.0	1055.7	1077.4	1078.4
27.5°	2912.8	2758.4	2219.3	1373.2	972.5	939.0	950.9	959.7	964.7	978.6	978.6
30°	3005.9	2776.3	2052.1	1100.2	904.4	881.5	874.6	870.6	874.6	893.5	894.4
32.5°	3122.6	2808.0	1823.5	943.8	872.7	841.1	805.4	785.6	799.4	833.1	839.0
35°	3255.2	2845.7	1549.4	881.5	861.7	821.2	756.0	725.2	730.2	760.9	765.9
37.5°	3421.5	2894.1	1279.4	866.8	872.7	819.3	733.1	689.5	667.9	668.9	667.9
40°	3634.2	2942.6	1065.6	870.6	896.4	824.1	722.2	654.0	608.5	610.5	614.4
42.5°	3856.8	2974.2	930.0	882.6	925.2	831.1	718.4	619.4	579.8	613.5	644.2
45°	4117.0	2965.2	859.8	893.5	946.9	834.0	703.6	615.3	582.8	683.7	741.1
47.5°	4415.8	2926.7	820.2	898.3	952.8	833.1	692.7	628.3	607.6	782.7	847.9
50°	4740.3	2866.3	788.5	890.5	949.9	829.1	704.5	644.2	617.3	804.4	854.8
52.5°	5095.5	2810.9	756.0	872.7	935.0	817.3	719.4	637.2	589.6	741.1	779.6
55°	5516.0	2798.1	719.4	842.0	910.3	804.4	711.4	615.3	559.0	657.0	680.7
57.5°	5996.8	2878.2	671.8	804.4	876.7	778.7	692.7	603.5	548.1	597.6	610.5
60°	6607.4	3055.3	621.4	764.8	835.1	740.1	675.7	606.5	551.1	588.7	591.7
62.5°	7084.3	3214.7	575.9	716.4	779.6	693.6	658.0	609.5	560.1	600.5	595.7
65°	7257.3	3136.4	519.4	644.2	701.4	642.1	633.2	611.4	560.1	607.6	596.7
67°	6902.1	2763.5	466.0	572.0	627.2	596.7	609.5	603.5	550.1	606.5	587.8
67.5°	6732.9	2631.9	452.1	560.1	607.6	582.8	603.5	599.6	547.2	604.5	582.8
70°	5552.7	1887.8	381.9	470.0	508.6	513.6	566.9	573.8	523.4	567.9	528.4
72.5°	3950.7	1181.5	329.5	364.2	410.6	439.4	517.5	539.3	491.7	493.7	461.1
75°	1955.2	634.3	293.8	281.0	319.5	366.1	451.2	491.7	445.2	411.7	400.7
77.5°	660.0	359.1	248.3	226.6	248.3	293.8	374.1	429.4	392.7	348.3	341.4
80°	341.4	261.1	193.9	182.0	195.9	227.6	292.8	357.2	335.3	337.5	278.0
82.5°	212.7	159.3	139.4	138.5	148.4	174.1	215.8	290.0	287.9	246.3	179.1
85°	99.0	92.0	89.0	92.0	95.0	99.0	140.4	206.8	218.6	132.6	117.8
87.5°	41.5	40.6	35.7	38.5	42.5	41.5	56.5	88.0	122.7	83.2	76.1
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)