

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: P196027

Luminaire Tested: **NAV-AF-01-D-UNV-AFL-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196027
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-01-D-UNV-AFL-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7023.6 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

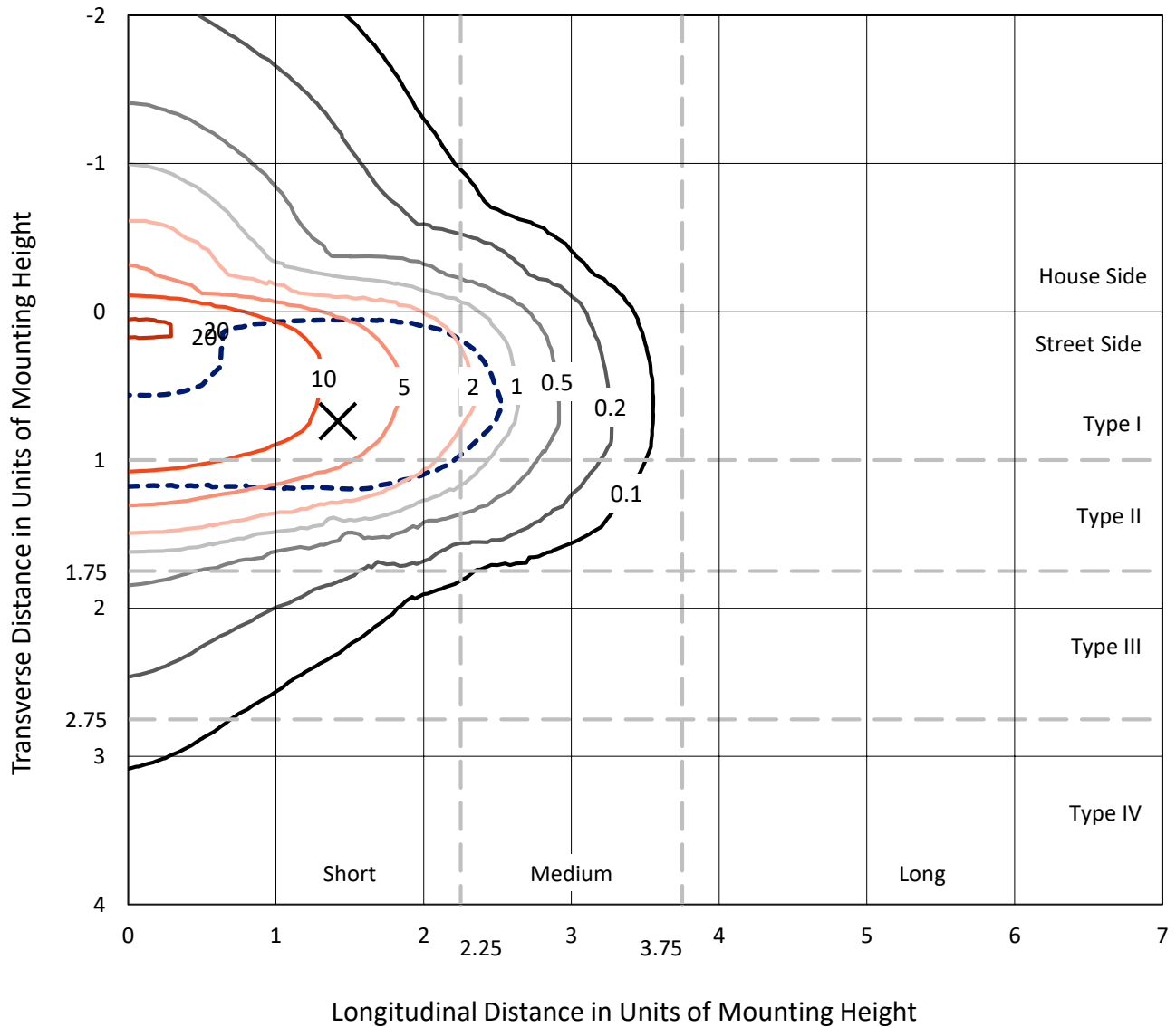
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

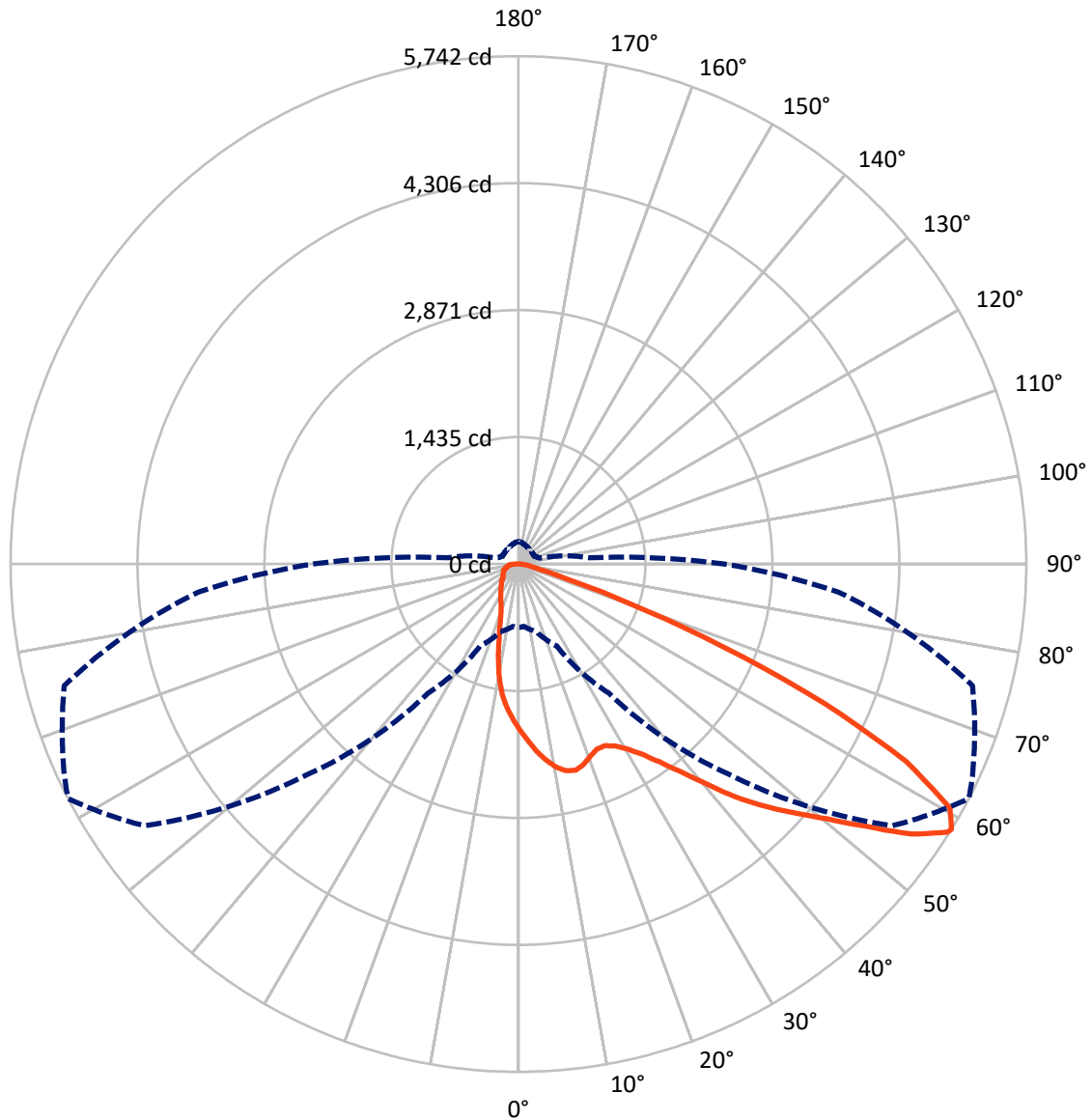
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.9 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral - - - Horizontal Cone Through 58-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1078.4	0.0	1078.4
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	5945.2	0.0	5945.2
	% Fixture	84.6	0.0	84.6
Total	Lumens	7023.6	0.0	7023.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.6	2.4
10°-20°	423.0	6.0
20°-30°	685.6	9.8
30°-40°	1094.5	15.6
40°-50°	1592.1	22.7
50°-60°	1665.9	23.7
60°-70°	1015.6	14.5
70°-80°	284.0	4.0
80°-90°	95.2	1.4
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°	7023.6	100.0
0°-180°	7023.6	100.0



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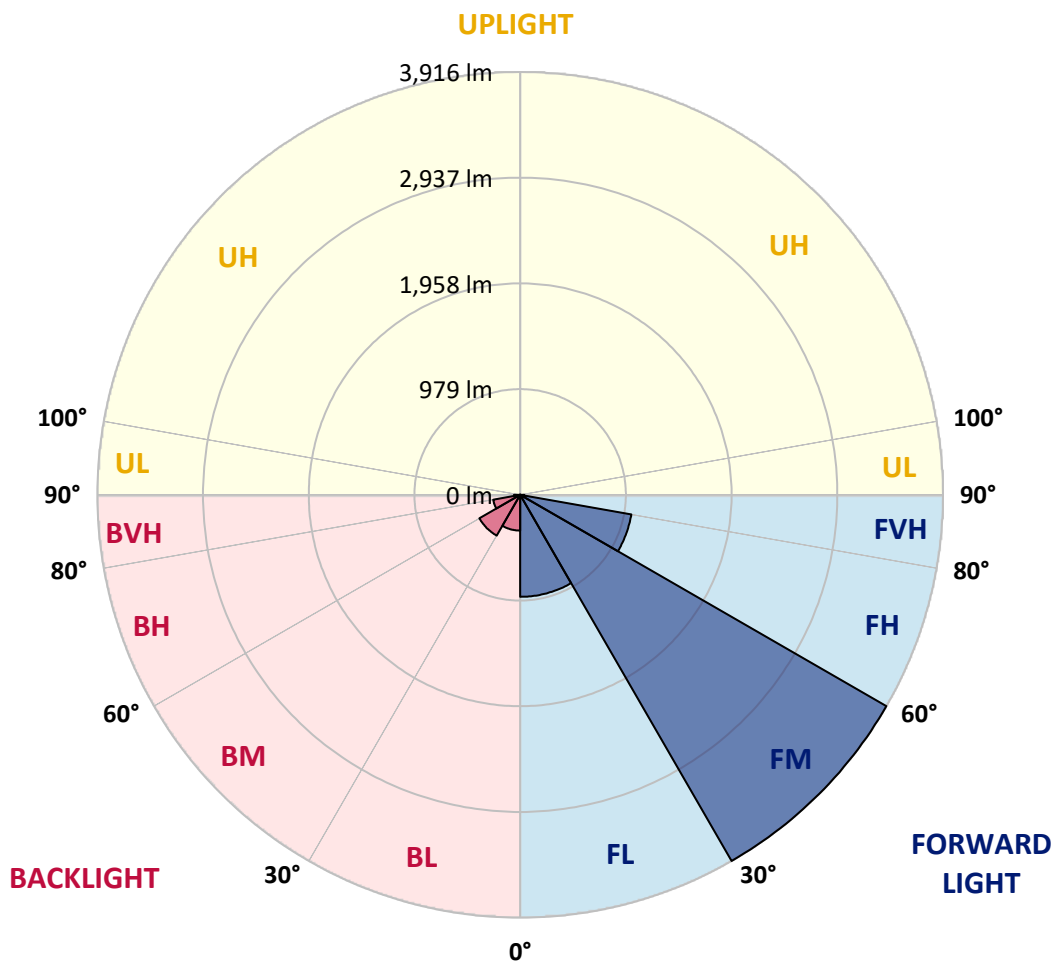
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	944.7	13.5			
FM	(30°-60°)	3916.4	55.8			
FH	(60°-80°)	1045.8	14.9			G1/1800
FVH	(80°-90°)	38.3	0.5			G1/100
BL	(0°-30°)	331.5	4.7	B1/500		
BM	(30°-60°)	436.1	6.2	B1/1000		
BH	(60°-80°)	253.9	3.6	B1/500		G1/500
BVH	(80°-90°)	56.9	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3
2.5°	2128.6	2127.2	2109.2	2097.4	2083.3	2050.8	2018.4	1994.2	1982.0	1934.9	1889.3
5°	2304.6	2299.3	2289.2	2276.5	2258.1	2217.2	2165.9	2121.5	2103.9	2020.5	1936.8
7.5°	2211.5	2219.8	2251.0	2286.1	2323.0	2325.6	2289.2	2236.5	2217.2	2105.7	1982.8
10°	1953.8	1950.4	1989.3	2057.9	2179.5	2299.7	2359.8	2334.0	2313.8	2186.5	2028.9
12.5°	1875.7	1874.8	1881.4	1898.9	1975.3	2140.4	2341.8	2398.1	2391.0	2272.1	2078.0
15°	1899.4	1900.2	1899.8	1902.1	1923.1	2001.7	2241.4	2419.6	2441.5	2356.8	2128.0
17.5°	1975.3	1972.2	1962.6	1952.1	1955.2	1983.2	2133.0	2382.7	2448.5	2432.3	2170.2
20°	2092.5	2092.5	2066.7	2037.2	2017.9	2024.0	2087.7	2319.4	2416.0	2496.4	2201.8
22.5°	2239.5	2241.8	2203.6	2150.0	2106.2	2089.5	2113.6	2272.5	2376.5	2555.6	2229.9
25°	2422.2	2421.7	2366.0	2289.2	2219.8	2179.9	2179.5	2274.7	2364.2	2625.0	2259.4
27.5°	2648.2	2627.7	2562.7	2453.3	2355.4	2294.5	2266.8	2330.0	2390.1	2710.2	2298.9
30°	2903.3	2882.3	2797.1	2656.6	2524.0	2434.9	2389.3	2425.7	2469.2	2818.5	2358.5
32.5°	3155.7	3160.5	3060.5	2902.0	2731.7	2606.2	2538.6	2561.0	2591.2	2951.1	2439.3
35°	3525.3	3524.9	3394.0	3196.1	2993.8	2819.9	2734.3	2746.1	2773.8	3138.1	2552.6
37.5°	3801.0	3796.6	3712.3	3537.2	3309.3	3100.9	2977.1	2978.8	3002.5	3373.0	2701.8
40°	3829.1	3828.2	3827.8	3802.7	3646.9	3450.2	3295.3	3263.2	3272.9	3622.4	2860.3
42.5°	3614.4	3646.5	3738.7	3880.0	3923.4	3820.3	3673.7	3602.1	3581.0	3908.5	3027.9
45°	3308.4	3324.7	3486.2	3804.0	4062.6	4167.9	4057.7	3906.8	3870.7	4186.8	3164.5
47.5°	3166.2	3159.2	3252.7	3599.0	4049.0	4444.5	4452.4	4204.8	4143.8	4426.9	3280.8
50°	2861.2	2852.0	2970.0	3297.5	3900.6	4581.9	4857.6	4529.6	4416.8	4655.2	3386.2
52.5°	2253.2	2244.5	2402.9	2824.8	3568.8	4530.5	5199.0	4928.3	4736.0	4875.1	3484.5
55°	1466.1	1467.0	1618.0	2053.1	2887.9	4231.1	5359.3	5388.7	5173.2	5095.0	3564.0
57.5°	807.2	799.7	907.4	1174.7	1986.8	3551.2	5225.8	5720.5	5608.2	5283.8	3621.5
58°	717.7	708.9	791.9	1022.3	1781.3	3359.4	5158.7	5741.6	5664.0	5314.9	3629.7
60°	511.4	496.4	483.8	576.3	1026.3	2422.2	4711.0	5605.2	5680.1	5377.3	3621.9
62.5°	431.1	414.0	368.3	364.8	483.3	1184.8	3725.5	4922.5	5132.8	5233.7	3494.6
65°	400.4	383.2	323.0	301.6	327.9	511.4	2303.7	3801.0	4081.9	4734.6	3174.1
67.5°	378.4	358.2	293.7	265.6	270.9	306.0	977.5	2485.9	2811.6	3692.1	2546.4
70°	358.6	336.2	270.4	237.9	233.5	232.6	381.9	1298.0	1611.9	2416.0	1705.8
72.5°	336.2	314.3	249.8	215.1	205.4	188.7	229.6	536.4	735.3	1184.4	781.8
75°	303.7	285.8	227.0	196.2	179.5	153.2	169.4	257.3	316.9	453.5	363.0
77.5°	267.3	252.9	203.7	180.4	158.0	125.1	129.5	174.3	195.8	255.4	210.2
80°	189.1	194.5	177.8	158.9	139.1	101.0	99.6	127.8	140.5	171.7	141.4
82.5°	130.3	134.3	144.8	125.5	112.4	78.6	73.3	88.7	95.2	103.6	68.4
85°	93.1	90.4	100.6	90.0	82.6	50.0	47.0	56.2	60.1	63.2	32.9
87.5°	56.7	56.2	57.9	46.5	43.1	25.5	23.2	26.8	28.5	27.6	15.8
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°	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3	1875.3
2.5°	1872.2	1850.6	1803.7	1765.9	1725.1	1694.0	1662.8	1645.2	1625.9	1614.9	1613.6
5°	1892.8	1848.9	1748.8	1655.7	1560.1	1474.1	1389.8	1327.4	1276.5	1247.5	1245.7
7.5°	1915.7	1846.7	1692.2	1531.2	1360.8	1191.3	1041.7	935.9	867.9	836.3	834.0
10°	1933.2	1837.5	1623.3	1372.6	1102.6	878.8	742.8	680.4	659.8	654.5	653.7
12.5°	1954.2	1830.9	1536.4	1169.4	842.8	669.0	627.7	623.8	628.2	630.8	631.3
15°	1974.0	1818.2	1419.1	944.2	659.8	597.9	598.7	607.1	615.8	619.8	620.2
17.5°	1983.2	1787.0	1265.1	744.0	577.3	565.8	575.9	586.9	594.8	597.9	597.9
20°	1983.2	1737.0	1086.5	602.7	534.2	536.4	548.7	557.0	558.8	556.2	554.8
22.5°	1974.9	1675.1	912.6	525.9	499.1	507.5	517.1	511.4	490.7	475.0	471.9
25°	1967.4	1601.7	745.3	478.9	468.4	479.4	475.4	436.3	404.7	388.5	385.9
27.5°	1955.2	1513.1	605.8	440.3	438.5	447.3	408.3	370.5	354.7	345.9	344.1
30°	1952.1	1417.0	507.0	406.0	409.1	396.8	352.0	339.7	336.2	331.4	329.2
32.5°	1962.1	1320.8	445.1	378.0	381.0	340.6	323.6	325.3	324.8	318.6	316.5
35°	1989.8	1227.3	405.6	352.5	343.7	305.0	307.3	312.5	312.5	305.0	302.5
37.5°	2038.1	1140.4	380.5	331.0	300.6	286.6	292.4	299.4	299.4	294.1	292.0
40°	2089.5	1055.7	361.7	313.8	273.4	273.9	279.6	284.9	287.0	288.0	286.2
42.5°	2136.0	967.9	341.6	295.4	261.2	264.2	266.9	270.9	280.1	286.2	285.3
45°	2163.2	879.6	319.6	272.6	252.9	254.2	253.3	260.3	271.3	280.5	280.5
47.5°	2188.2	807.2	301.6	249.8	244.5	244.5	241.8	248.9	259.0	270.0	270.9
50°	2211.9	760.3	288.9	232.2	233.9	232.6	231.8	238.3	252.0	265.1	267.3
52.5°	2236.1	744.5	277.4	219.5	223.0	221.3	222.1	231.3	246.7	260.3	262.5
55°	2269.9	754.5	265.6	210.7	212.5	212.1	215.5	226.1	239.7	253.3	254.2
57.5°	2311.6	791.5	255.4	204.1	202.3	205.0	210.7	220.8	233.9	250.2	251.5
58°	2320.0	800.3	253.7	202.3	200.2	204.1	209.8	219.5	233.1	250.2	251.5
60°	2332.6	831.4	249.3	198.9	192.7	199.7	206.7	216.5	231.3	252.4	255.0
62.5°	2271.2	837.6	248.0	194.9	184.8	193.5	201.9	212.9	229.6	259.8	265.6
65°	2058.3	774.4	238.8	188.3	178.2	188.7	197.5	210.2	234.9	282.2	284.9
67.5°	1652.3	643.1	216.5	178.2	170.7	183.0	194.1	210.2	237.0	285.8	287.6
70°	1136.0	483.3	188.3	167.3	161.9	176.0	192.7	215.1	229.6	270.4	265.1
72.5°	593.5	336.2	165.0	154.5	151.4	169.9	205.4	210.2	220.8	252.4	247.1
75°	298.9	228.7	145.3	140.0	139.6	167.7	230.1	202.3	211.5	237.5	248.9
77.5°	176.5	179.1	129.5	126.4	128.6	163.8	230.5	194.5	201.0	218.6	230.9
80°	120.7	147.9	117.2	116.3	118.0	150.6	212.5	184.8	188.7	206.7	219.9
82.5°	68.0	81.6	102.7	108.4	107.5	123.4	183.5	168.2	173.0	244.5	258.5
85°	32.9	49.2	86.0	101.4	91.8	82.0	149.2	149.2	150.6	175.1	177.4
87.5°	12.3	22.0	57.9	80.3	64.1	49.2	101.4	105.8	117.6	121.1	123.8
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)