

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: P270353

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270353
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SL3-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10568.6 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

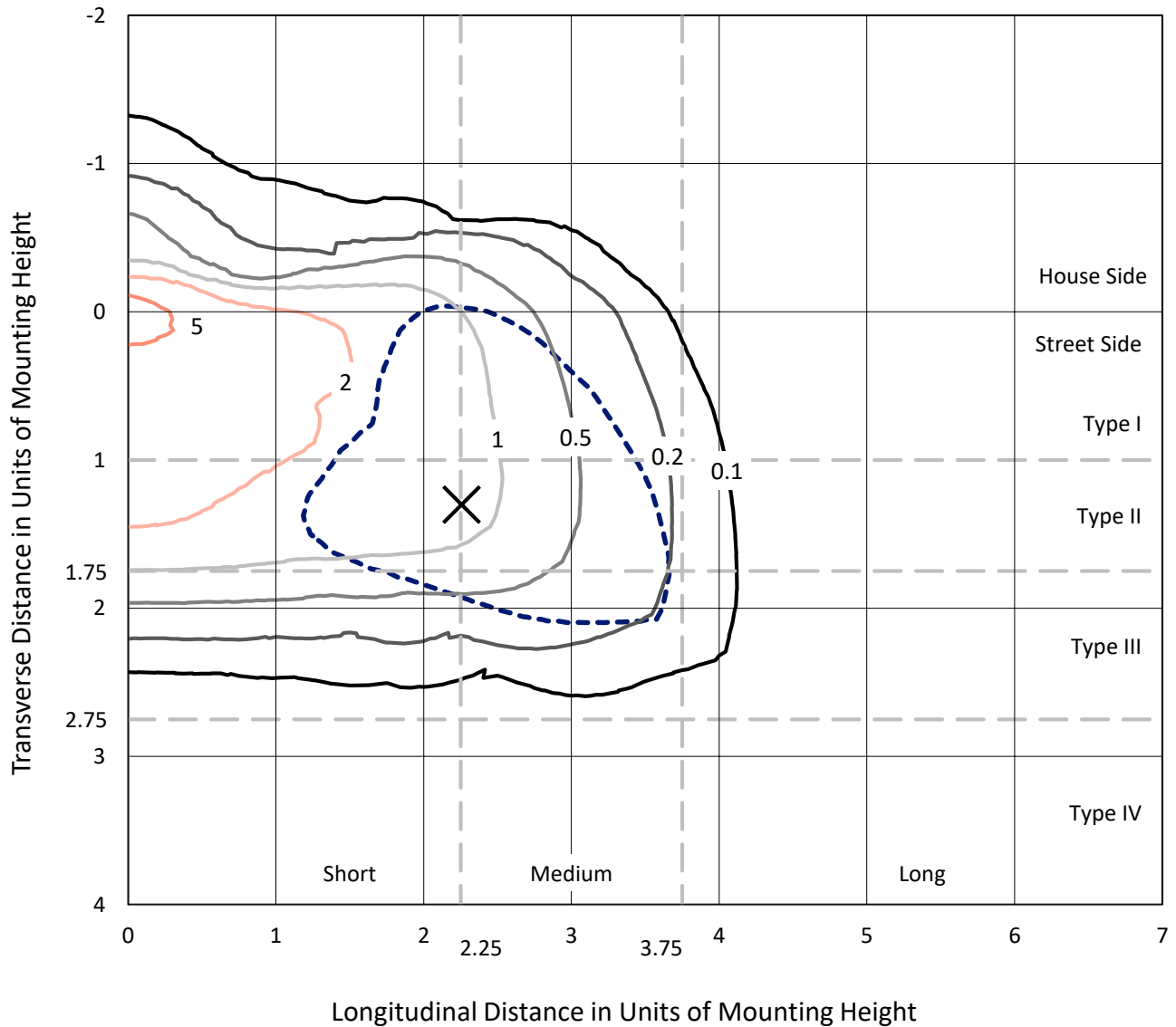
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

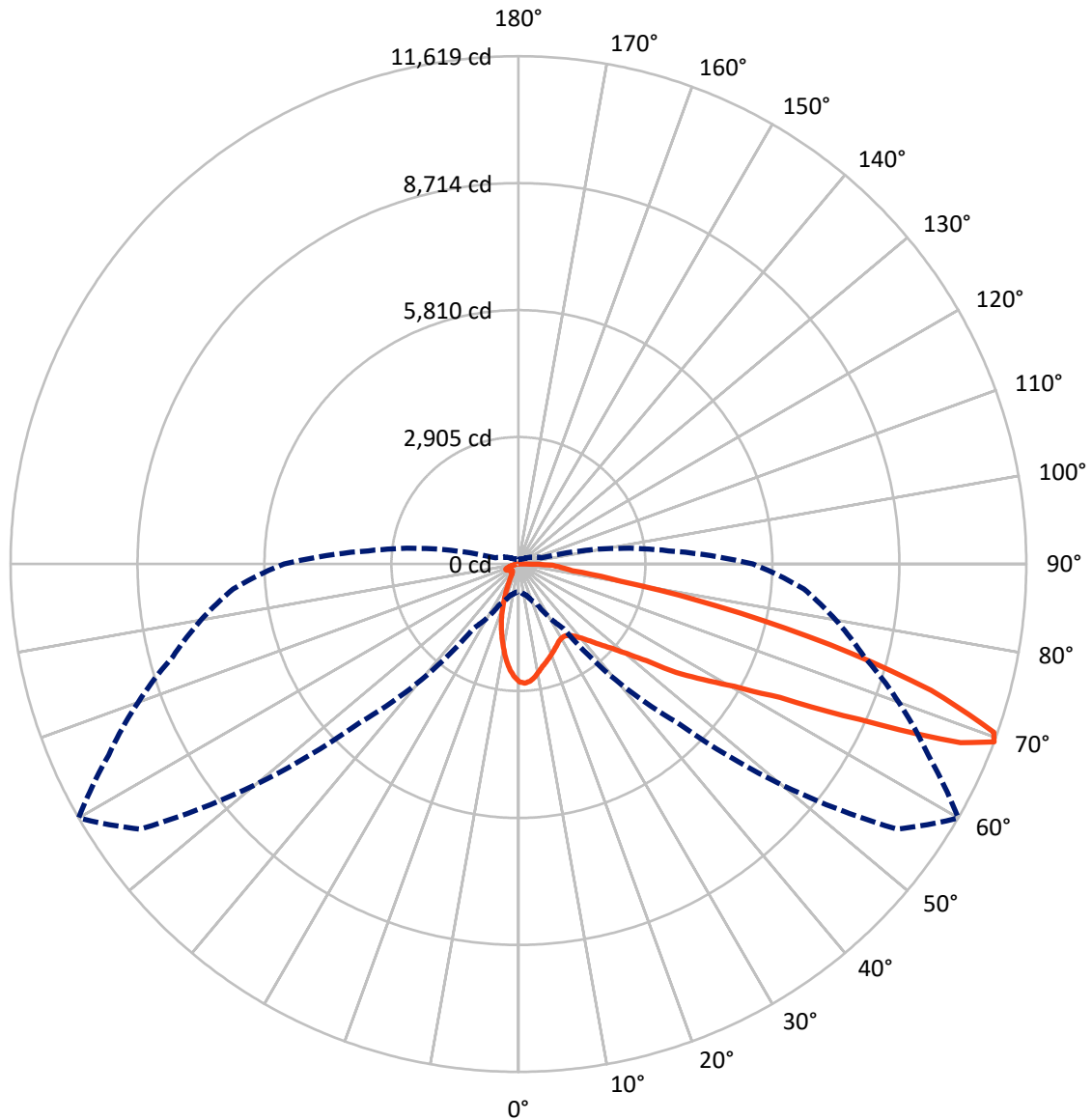
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.7 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1507.4	0.0	1507.4
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	9061.2	0.0	9061.2
	% Fixture	85.7	0.0	85.7
Total	Lumens	10568.6	0.0	10568.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.8	2.2
10°-20°	489.8	4.6
20°-30°	624.8	5.9
30°-40°	859.8	8.1
40°-50°	1392.8	13.2
50°-60°	2185.9	20.7
60°-70°	2914.2	27.6
70°-80°	1621.0	15.3
80°-90°	251.4	2.4
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°	10568.6	100.0
0°-180°	10568.6	100.0

Coefficient of Utilization



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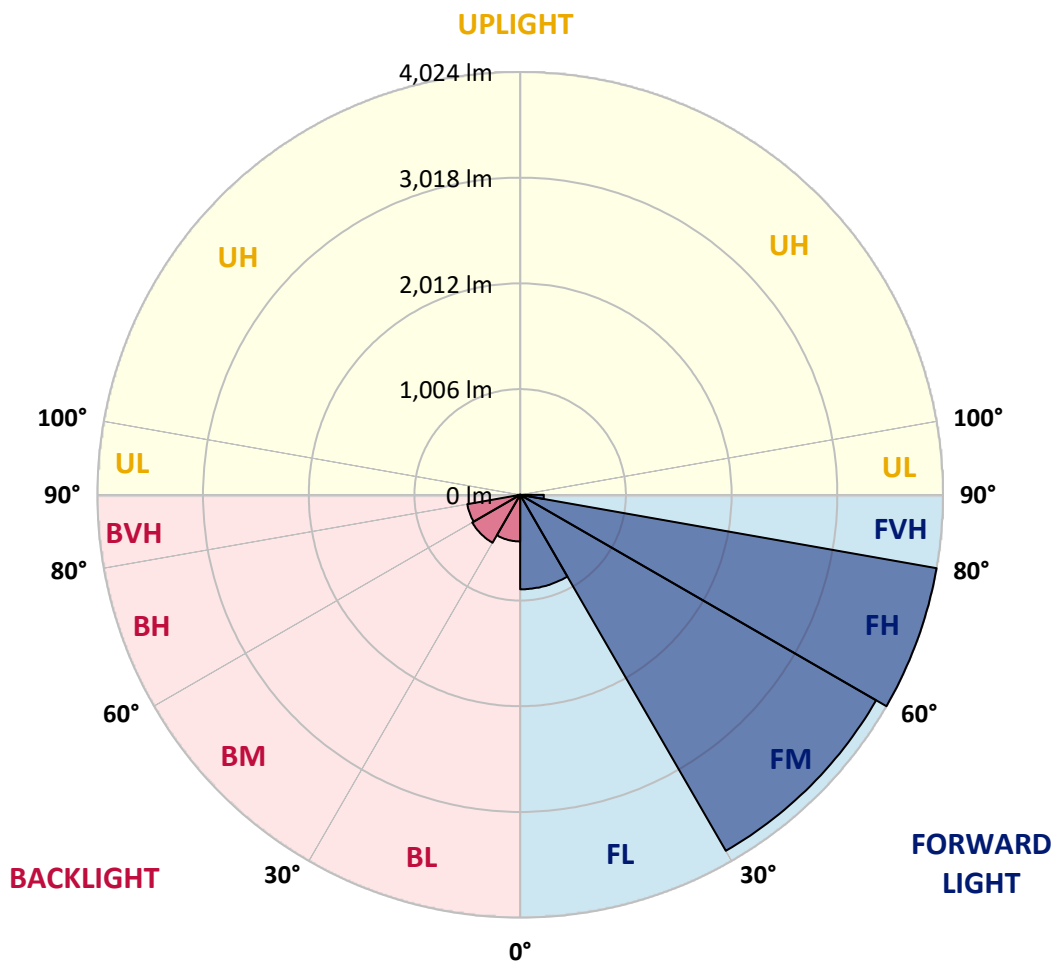
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	899.2	8.5			
FM	(30°-60°)	3911.9	37.0			
FH	(60°-80°)	4024.1	38.1			G2/5000
FVH	(80°-90°)	225.9	2.1			G3/500
BL	(0°-30°)	444.2	4.2	B1/500		
BM	(30°-60°)	526.6	5.0	B1/1000		
BH	(60°-80°)	511.1	4.8	B2/1000		G2/1000
BVH	(80°-90°)	25.5	0.2			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°	60°	65°	75°	85°
0°	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6
2.5°	2768.4	2775.9	2775.9	2769.8	2766.4	2746.7	2735.2	2727.2	2712.9	2686.4	2662.8
5°	2669.6	2683.7	2689.9	2692.5	2710.1	2704.1	2704.7	2699.3	2687.1	2658.7	2620.0
7.5°	2487.9	2490.6	2501.4	2519.7	2562.4	2592.2	2616.7	2621.3	2618.6	2597.7	2543.5
10°	2309.0	2313.8	2326.6	2357.7	2398.5	2441.1	2494.0	2515.7	2532.0	2525.1	2456.8
12.5°	2160.6	2161.2	2175.4	2211.4	2256.8	2310.4	2382.1	2416.0	2454.7	2470.2	2393.7
15°	2017.6	2027.0	2040.6	2084.0	2140.2	2207.9	2290.7	2337.4	2388.2	2433.0	2344.8
17.5°	1909.1	1916.5	1924.7	1960.6	2025.7	2110.4	2212.7	2262.9	2329.9	2398.5	2294.7
20°	1849.5	1852.1	1846.0	1863.8	1918.6	2010.0	2128.8	2189.0	2268.9	2365.1	2243.2
22.5°	1837.3	1837.3	1814.9	1811.5	1836.0	1913.2	2041.9	2115.8	2213.5	2342.2	2197.2
25°	1894.2	1890.2	1848.2	1809.5	1800.7	1840.0	1959.3	2050.1	2166.0	2341.5	2162.6
27.5°	2002.0	1996.6	1944.3	1879.3	1823.0	1806.1	1895.6	1988.4	2128.8	2364.5	2145.0
30°	2136.1	2134.2	2081.3	1999.9	1907.1	1819.6	1870.5	1956.6	2103.7	2407.2	2144.3
32.5°	2283.2	2273.7	2241.2	2159.9	2039.2	1894.9	1885.5	1957.9	2096.9	2469.6	2159.9
35°	2439.7	2433.0	2424.9	2342.8	2207.3	2027.7	1951.1	2004.7	2130.1	2556.3	2203.9
37.5°	2639.0	2631.6	2645.1	2555.7	2407.2	2201.8	2062.2	2098.3	2197.9	2682.3	2285.8
40°	2993.4	2971.8	2933.9	2796.2	2640.4	2415.4	2222.9	2228.3	2313.8	2851.1	2417.3
42.5°	3575.7	3505.7	3318.1	3065.2	2886.3	2663.5	2432.3	2406.6	2473.7	3074.1	2608.5
45°	4159.2	4080.6	3763.3	3358.8	3141.3	2929.7	2691.2	2629.5	2672.8	3333.7	2854.5
47.5°	4535.9	4497.3	4139.5	3652.1	3408.2	3219.9	2987.4	2885.6	2916.8	3627.7	3158.1
50°	4646.5	4613.2	4331.9	3881.9	3660.4	3570.1	3354.0	3219.2	3224.6	3971.3	3522.1
52.5°	4563.7	4550.2	4363.7	4024.2	3892.0	3939.5	3861.6	3673.9	3629.2	4348.2	3916.5
55°	4453.3	4458.0	4386.2	4167.2	4127.9	4283.7	4525.8	4374.7	4184.8	4740.5	4327.1
57.5°	4105.6	4108.9	4297.3	4439.7	4577.9	4766.3	5042.8	4979.1	4758.2	5164.1	4787.3
60°	3305.9	3332.4	3751.9	4383.4	5092.3	5717.2	5784.9	5675.1	5368.1	5652.0	5385.8
62.5°	2361.9	2385.5	2871.4	3805.3	5031.9	6793.3	7155.3	6718.9	6195.6	6382.0	6227.5
65°	1240.9	1236.8	1612.9	2629.5	4238.5	7042.7	9314.4	8571.6	7589.7	7385.7	7040.7
67.5°	693.3	715.7	861.4	1326.3	2762.4	6198.3	10693.7	10912.5	9528.0	8182.0	7005.5
69°	641.1	648.5	746.1	1025.3	1800.7	5114.1	10574.9	11619.3	10345.2	8185.4	6554.2
70°	622.9	631.0	719.7	944.7	1512.7	4190.2	10143.3	11536.7	10543.9	8003.8	6143.5
72.5°	558.4	569.3	655.4	849.2	1274.8	2159.9	8170.4	9874.2	9551.0	6995.3	4763.6
75°	476.5	494.7	624.9	843.1	1207.7	1373.0	5448.8	7356.5	7108.5	5002.9	2702.7
77.5°	197.2	199.2	273.2	617.3	1267.2	1314.1	2928.4	4660.0	4125.2	2193.8	814.0
80°	137.6	134.8	136.3	180.3	1022.7	1322.9	1502.4	2370.0	1842.1	578.8	380.9
82.5°	115.9	114.5	120.0	113.1	346.2	1501.2	1256.5	1235.4	867.5	311.7	181.6
85°	76.5	74.6	98.3	103.0	164.7	1192.1	1351.4	971.2	646.5	166.7	77.3
87.5°	37.3	38.0	56.2	69.8	87.5	377.5	1294.5	767.8	499.5	72.6	31.3
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°	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6	2696.6
2.5°	2653.2	2632.9	2614.5	2591.6	2574.0	2559.0	2538.7	2538.0	2534.7	2539.4	2540.8
5°	2594.2	2560.3	2508.8	2451.3	2410.6	2357.2	2305.0	2287.3	2267.6	2265.5	2271.6
7.5°	2505.6	2452.6	2364.5	2276.5	2188.4	2098.3	2012.8	1969.4	1927.5	1914.6	1920.7
10°	2406.6	2339.5	2204.6	2060.9	1936.8	1802.7	1672.6	1588.6	1511.9	1479.5	1487.6
12.5°	2329.2	2243.8	2054.2	1867.8	1682.0	1489.6	1318.2	1152.0	1026.8	970.4	973.9
15°	2262.9	2153.7	1913.2	1665.2	1432.6	1169.1	931.2	738.6	629.0	588.3	587.0
17.5°	2191.1	2058.8	1766.1	1476.8	1175.2	849.2	623.6	509.7	466.3	452.7	452.7
20°	2114.5	1961.3	1612.3	1271.5	904.1	593.1	468.9	424.9	408.6	404.5	403.9
22.5°	2043.3	1865.7	1457.8	1052.5	654.0	450.1	399.1	382.1	379.5	382.9	382.9
25°	1987.1	1781.7	1301.3	822.0	475.7	376.7	355.1	353.0	363.3	375.4	377.5
27.5°	1945.0	1706.5	1146.6	600.4	374.1	328.1	320.5	329.4	353.0	377.5	382.1
30°	1915.8	1642.1	961.6	431.6	311.7	287.4	290.7	306.3	342.3	379.5	389.7
32.5°	1903.0	1589.9	775.2	331.5	266.3	252.9	261.5	281.9	319.2	356.4	368.7
35°	1915.1	1551.9	603.1	275.2	233.1	223.0	233.1	254.1	278.6	296.8	304.3
37.5°	1959.3	1538.3	454.1	244.0	211.5	201.3	209.5	223.7	234.5	241.3	244.7
40°	2052.1	1552.6	355.8	227.7	199.2	187.7	189.7	196.5	203.9	209.5	210.2
42.5°	2199.9	1599.4	316.6	221.6	191.8	176.8	173.6	178.3	186.4	193.9	195.2
45°	2396.4	1677.3	312.4	223.7	188.5	168.1	161.2	166.0	176.8	189.1	191.1
47.5°	2650.4	1800.7	331.5	234.5	190.4	163.3	153.3	157.9	172.1	188.5	191.1
50°	2951.4	1971.5	366.7	250.7	200.0	163.3	149.7	153.8	168.7	187.0	189.7
52.5°	3305.9	2209.3	403.2	267.1	213.4	169.4	151.2	150.5	164.0	181.0	184.3
55°	3697.0	2504.8	438.6	281.3	221.0	177.5	154.5	146.3	157.3	170.8	173.6
57.5°	4157.0	2909.4	500.1	294.9	224.9	183.7	158.6	142.3	148.4	157.9	160.0
60°	4781.3	3503.7	620.1	317.8	232.4	186.4	159.3	138.2	137.6	144.4	145.0
62.5°	5595.2	4199.8	734.6	344.9	247.4	187.0	156.6	135.6	128.7	130.9	130.9
65°	6174.0	4456.0	701.4	367.9	260.9	186.4	153.8	133.5	122.0	118.5	118.5
67.5°	5844.6	3936.2	595.7	374.1	262.2	178.9	147.7	128.7	115.9	107.7	107.7
69°	5360.6	3450.2	546.9	363.3	251.4	170.0	140.9	124.1	111.7	102.3	102.3
70°	4966.3	3082.3	517.1	350.3	238.6	162.7	134.8	119.3	107.7	99.6	99.0
72.5°	3707.8	2056.8	441.8	302.3	195.9	137.6	117.9	106.4	96.8	91.4	91.4
75°	1956.6	1030.7	361.8	246.7	151.2	109.9	96.8	89.4	84.0	83.4	82.6
77.5°	641.1	466.3	260.2	185.7	111.1	85.3	77.3	72.6	71.9	74.6	74.6
80°	346.2	278.6	167.4	125.4	77.3	63.7	59.6	59.0	60.9	65.0	65.0
82.5°	168.1	137.6	99.6	77.3	52.9	46.7	46.7	47.4	50.1	54.8	54.8
85°	72.6	65.0	57.6	43.4	32.5	29.1	33.1	36.7	38.6	42.0	43.4
87.5°	34.6	30.5	26.4	17.0	14.3	14.9	17.6	21.6	25.7	28.4	29.1
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)