

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: P196952

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196952
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)
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-AFL-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6741 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 85
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

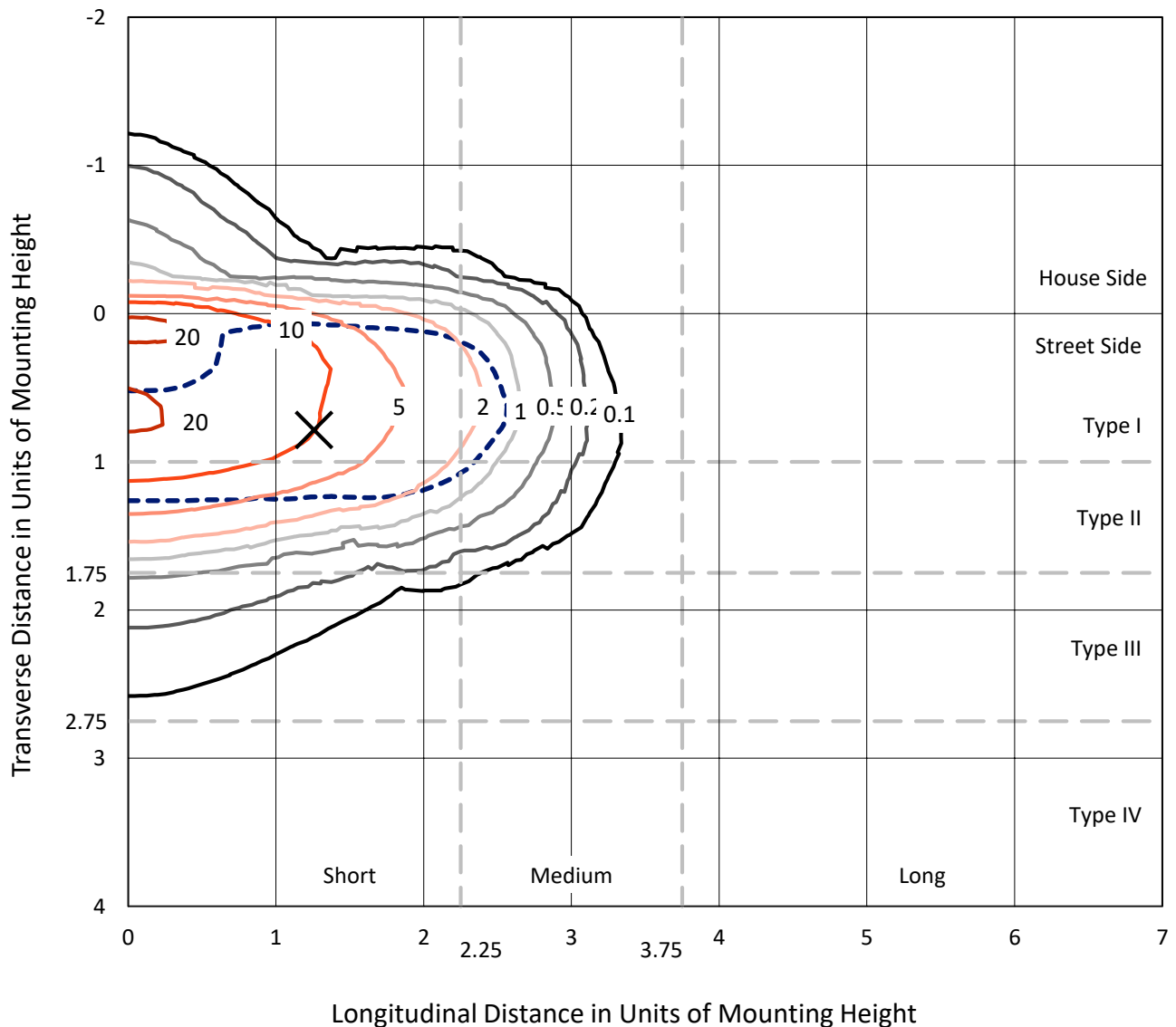


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

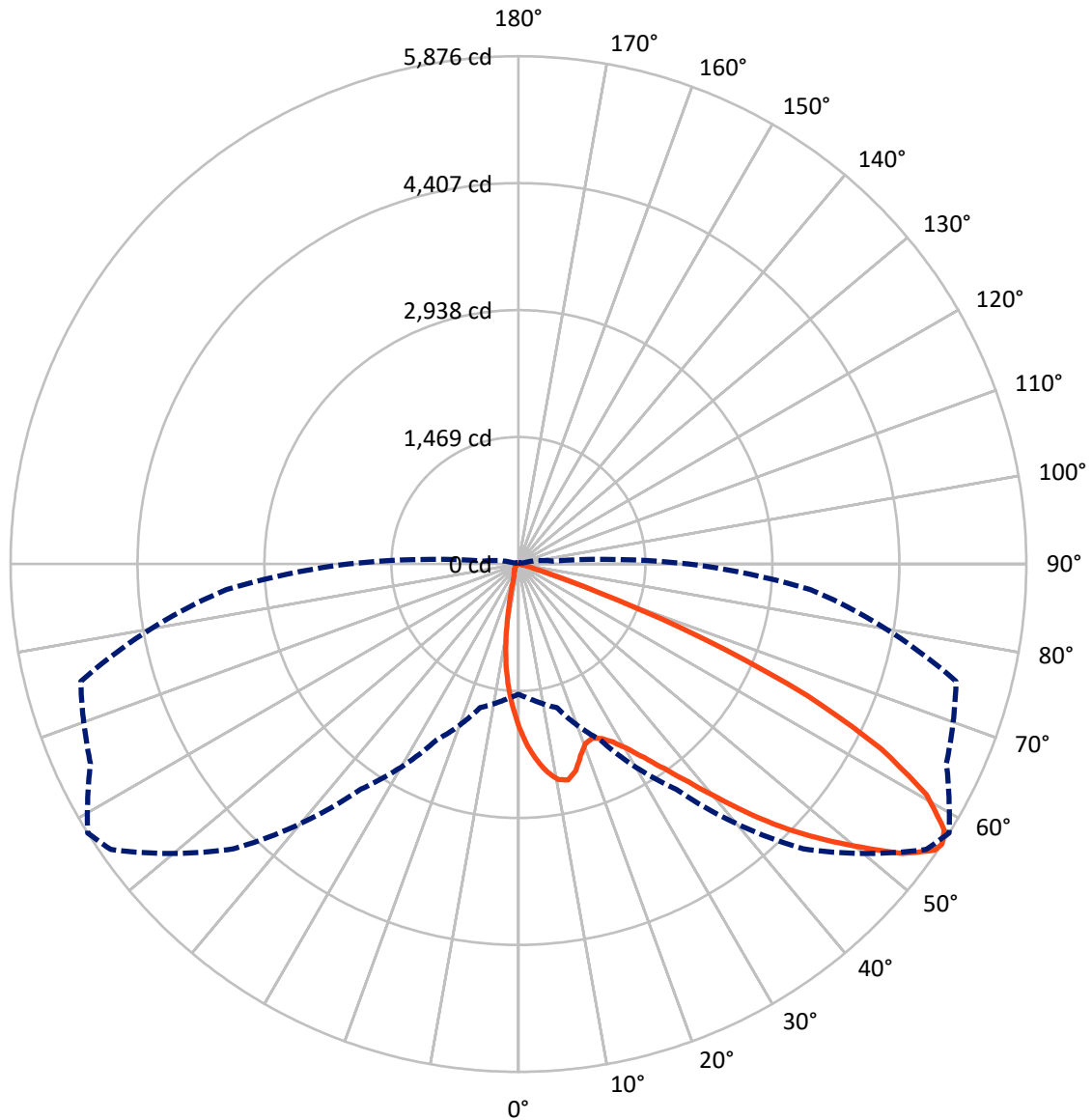


Based on 10 foot mounting height. Maximum calculated value = 23.7 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 56-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	420.8	0.0	420.8
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	6320.2	0.0	6320.2
	% Fixture	93.8	0.0	93.8
Total	Lumens	6741.0	0.0	6741.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.8	2.4
10°-20°	378.8	5.6
20°-30°	637.5	9.5
30°-40°	1091.6	16.2
40°-50°	1647.2	24.4
50°-60°	1712.2	25.4
60°-70°	961.2	14.3
70°-80°	131.7	2.0
80°-90°	17.8	0.3
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°	6741.0	100.0
0°-180°	6741.0	100.0



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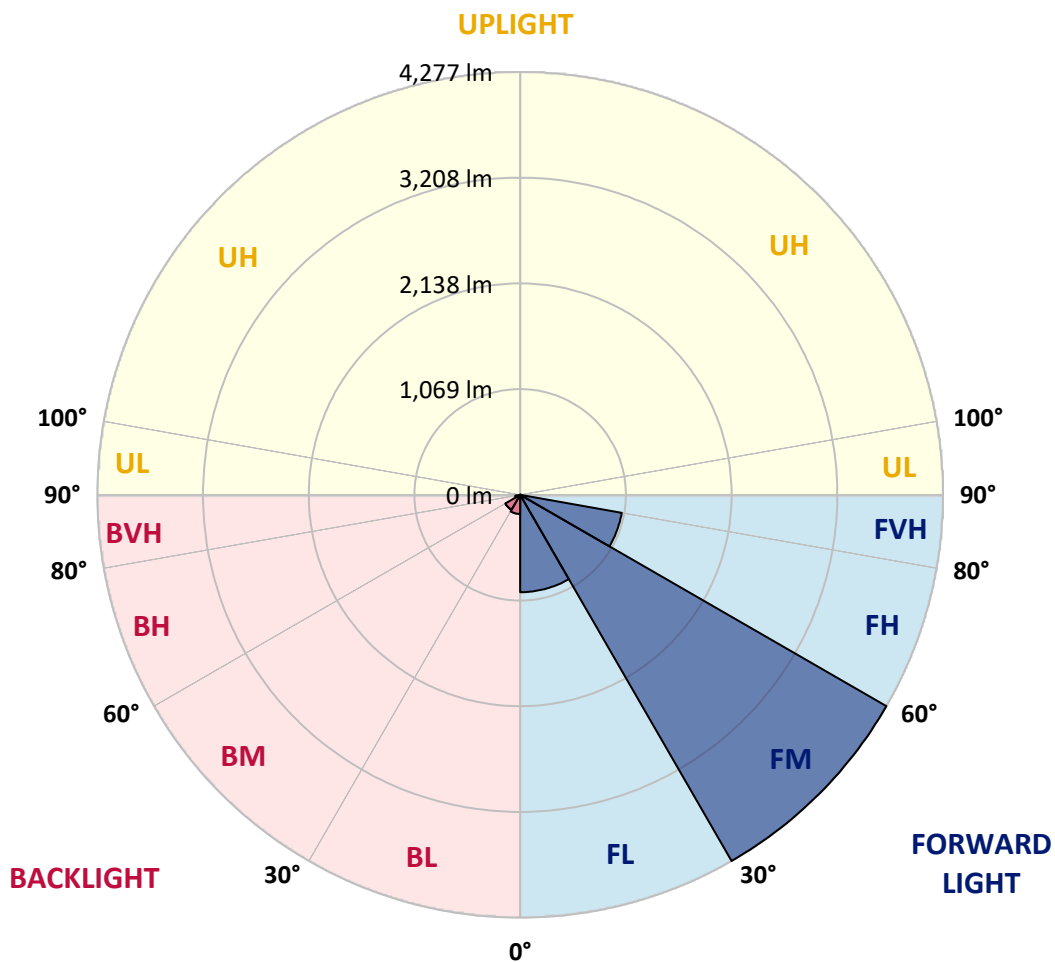
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	985.0	14.6			
FM	(30°-60°)	4276.8	63.4			
FH	(60°-80°)	1043.1	15.5			G1/1800
FVH	(80°-90°)	15.4	0.2			G1/100
BL	(0°-30°)	194.1	2.9	B1/500		
BM	(30°-60°)	174.3	2.6	B0/220		
BH	(60°-80°)	49.9	0.7	B0/110		G0/110
BVH	(80°-90°)	2.5	0.0			G0/10
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°	58°	65°	75°	85°
0°	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6
2.5°	2296.4	2282.5	2268.1	2241.3	2216.6	2178.6	2126.1	2113.3	2072.1	2004.2	1941.0
5°	2494.4	2491.8	2482.0	2460.4	2433.7	2387.4	2328.3	2288.7	2224.9	2117.9	1996.0
7.5°	2377.1	2398.7	2434.2	2484.6	2518.5	2513.9	2468.7	2434.2	2370.9	2224.9	2050.0
10°	2003.7	2007.8	2056.7	2162.6	2330.3	2486.7	2545.8	2536.5	2478.4	2318.5	2097.3
12.5°	1872.1	1874.6	1886.0	1919.9	2028.9	2247.0	2514.9	2563.3	2558.7	2408.0	2147.7
15°	1882.4	1883.9	1887.0	1897.8	1928.6	2038.2	2358.6	2481.5	2610.1	2492.8	2197.1
17.5°	1963.6	1962.6	1952.8	1942.5	1952.3	1988.3	2199.2	2328.8	2599.3	2564.3	2237.7
20°	2122.0	2127.2	2094.2	2048.5	2024.8	2026.4	2120.5	2217.7	2538.6	2619.9	2268.1
22.5°	2344.7	2348.3	2294.3	2215.1	2145.7	2110.7	2136.9	2188.4	2468.7	2671.3	2292.8
25°	2610.6	2610.6	2535.0	2422.4	2314.9	2238.2	2215.6	2235.2	2441.9	2729.4	2317.5
27.5°	2897.6	2907.9	2809.1	2661.5	2519.6	2407.5	2336.5	2332.9	2462.5	2802.4	2345.2
30°	3209.8	3219.0	3101.8	2921.2	2753.1	2609.6	2500.5	2476.9	2541.2	2900.7	2385.9
32.5°	3520.4	3528.1	3398.5	3214.4	3018.4	2849.8	2706.3	2668.7	2682.6	3044.2	2445.5
35°	3915.4	3916.9	3752.9	3533.8	3324.5	3126.5	2944.9	2907.9	2892.4	3225.2	2531.4
37.5°	4229.6	4217.3	4113.4	3906.1	3666.0	3459.2	3245.8	3197.4	3160.4	3479.8	2664.6
40°	4303.7	4303.7	4288.3	4226.0	4035.2	3836.2	3629.4	3557.4	3475.7	3779.6	2843.6
42.5°	4110.8	4123.2	4225.0	4360.3	4361.8	4234.3	4032.1	3971.5	3827.4	4121.1	3039.0
45°	3679.3	3682.9	3927.2	4292.4	4540.3	4613.3	4464.2	4380.3	4180.8	4476.0	3218.0
47.5°	3524.0	3535.3	3639.2	4085.6	4553.6	4920.3	4878.7	4763.5	4507.9	4800.0	3385.1
50°	3285.4	3299.3	3426.3	3781.2	4433.3	5117.3	5275.2	5151.8	4805.7	5070.0	3467.9
52.5°	2714.5	2736.1	2915.6	3378.5	4132.4	5125.6	5638.3	5564.3	5110.6	5214.5	3458.2
55°	1868.0	1883.9	2093.2	2637.3	3525.6	4874.1	5794.7	5845.6	5382.7	5246.9	3410.9
56°	1506.9	1566.6	1719.8	2247.0	3179.9	4660.1	5758.7	5876.4	5463.4	5241.8	3390.3
57.5°	996.2	1007.5	1174.7	1628.3	2553.5	4195.7	5596.1	5810.6	5567.3	5215.6	3375.4
60°	468.5	473.7	533.8	751.4	1381.9	3057.5	5067.9	5423.8	5605.4	5160.5	3374.9
62.5°	305.5	306.5	313.7	358.5	565.2	1665.3	4201.3	4713.6	5290.1	5154.4	3365.1
65°	251.5	254.1	245.3	251.0	295.7	628.0	2963.4	3674.7	4550.0	5009.3	3255.0
67.5°	221.7	222.2	210.4	203.7	216.5	275.7	1493.0	2318.0	3403.1	4256.4	2681.1
70°	202.1	201.6	188.2	172.8	173.3	183.1	486.5	962.8	1882.9	2527.3	1539.3
72.5°	179.5	180.5	172.8	151.2	144.0	129.6	183.1	259.7	640.8	811.6	405.8
75°	157.4	155.3	147.6	133.7	120.3	86.9	92.1	110.6	167.1	165.6	87.4
77.5°	119.3	117.3	120.9	114.2	94.1	60.7	50.4	57.6	75.6	70.5	35.5
80°	91.0	90.0	82.3	97.7	85.9	45.8	34.5	35.5	41.1	37.5	17.5
82.5°	65.8	65.3	62.2	60.2	54.5	33.4	26.2	27.8	30.9	26.2	12.9
85°	25.2	25.2	48.9	41.1	37.5	22.6	18.5	20.1	23.7	19.0	8.7
87.5°	4.1	4.1	32.9	27.3	17.0	11.3	11.8	12.9	13.9	11.3	6.7
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°	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6	1908.6
2.5°	1903.4	1869.0	1793.4	1720.3	1656.6	1586.6	1551.1	1510.0	1494.6	1463.7	1466.8
5°	1923.0	1851.0	1699.3	1539.3	1392.7	1243.6	1137.6	1037.9	982.3	927.3	927.3
7.5°	1943.0	1833.0	1598.5	1342.8	1096.0	840.4	659.3	514.3	433.6	379.6	378.0
10°	1956.9	1809.8	1483.8	1115.0	750.9	433.0	261.3	205.7	185.7	176.9	176.4
12.5°	1974.9	1786.7	1353.1	846.5	417.1	205.7	163.0	154.3	150.7	148.6	148.6
15°	1990.4	1753.8	1194.7	569.3	219.1	154.3	140.4	137.3	136.8	136.3	136.8
17.5°	1994.0	1707.0	1004.9	333.3	158.9	134.7	128.6	126.0	126.0	125.5	125.5
20°	1985.7	1645.3	795.1	205.7	137.3	123.9	117.3	114.2	113.7	113.7	113.7
22.5°	1968.8	1566.6	587.8	155.8	125.0	114.2	105.4	102.3	102.3	102.9	103.4
25°	1947.7	1473.5	403.7	134.2	115.7	103.9	95.1	92.1	93.1	94.1	94.6
27.5°	1920.9	1362.4	264.4	116.2	103.4	93.6	85.9	83.8	85.9	87.9	89.0
30°	1894.2	1240.5	179.0	100.8	89.5	82.3	77.7	77.1	80.2	84.9	85.4
32.5°	1876.7	1115.5	135.3	90.5	78.7	72.5	70.5	71.5	76.1	81.3	82.3
35°	1875.2	993.6	115.2	82.3	71.5	65.8	64.8	67.9	73.0	77.1	78.2
37.5°	1899.3	879.5	104.4	76.1	65.8	60.2	58.6	64.3	68.9	73.0	74.1
40°	1948.2	777.1	97.2	70.5	61.2	54.5	53.5	58.1	62.7	67.4	68.9
42.5°	2009.4	681.5	89.0	64.8	56.1	48.3	47.3	50.9	55.5	62.2	63.3
45°	2062.4	592.5	80.2	58.6	50.4	41.7	41.1	45.3	48.9	55.0	56.1
47.5°	2107.1	518.4	72.0	51.9	43.2	37.0	36.5	38.6	40.6	46.3	47.3
50°	2083.4	455.7	63.8	42.7	35.0	31.9	31.4	31.4	33.9	39.6	40.6
52.5°	2025.3	416.6	56.1	35.5	28.8	27.3	25.7	26.2	28.8	31.4	31.9
55°	1978.5	398.1	49.4	31.4	24.2	22.6	21.1	20.6	21.1	20.1	19.0
56°	1967.2	396.0	47.8	30.3	23.1	21.1	19.0	18.0	17.5	15.4	14.9
57.5°	1962.1	396.0	45.3	28.3	21.6	19.0	16.5	14.4	12.3	10.8	10.8
60°	1958.0	398.6	42.2	24.7	18.5	15.4	11.8	8.7	7.2	7.2	7.2
62.5°	1949.2	397.6	38.6	20.6	15.9	11.8	7.2	5.7	5.1	5.7	6.2
65°	1851.0	369.3	33.9	16.5	12.3	8.2	4.1	4.1	4.6	5.7	6.2
67.5°	1491.5	279.8	27.8	12.9	8.7	6.2	3.6	3.6	4.6	5.7	6.2
70°	819.3	147.6	23.7	9.3	6.7	5.1	3.6	3.1	4.6	5.7	6.2
72.5°	200.1	61.7	21.6	7.2	6.2	4.6	3.1	3.1	4.6	5.7	6.2
75°	49.4	46.3	17.5	5.7	5.1	4.1	3.1	3.1	4.6	5.7	6.2
77.5°	23.1	61.2	11.8	5.1	4.6	3.6	3.1	3.1	4.6	5.7	5.7
80°	13.9	46.3	7.2	4.6	4.1	3.6	3.1	3.1	4.6	5.7	6.2
82.5°	8.2	13.4	5.1	4.6	4.1	3.1	3.1	3.1	4.6	5.7	6.2
85°	7.2	6.7	5.1	4.6	4.1	3.6	3.1	3.1	5.1	6.2	6.2
87.5°	5.7	5.1	4.6	4.1	4.1	3.6	3.1	3.1	4.6	5.7	6.2
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)