

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: P270444

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270444
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-SL4-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 800mA 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: 12130.1 lumens
Efficiency: N/A
Efficacy: 97.8 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): 124
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

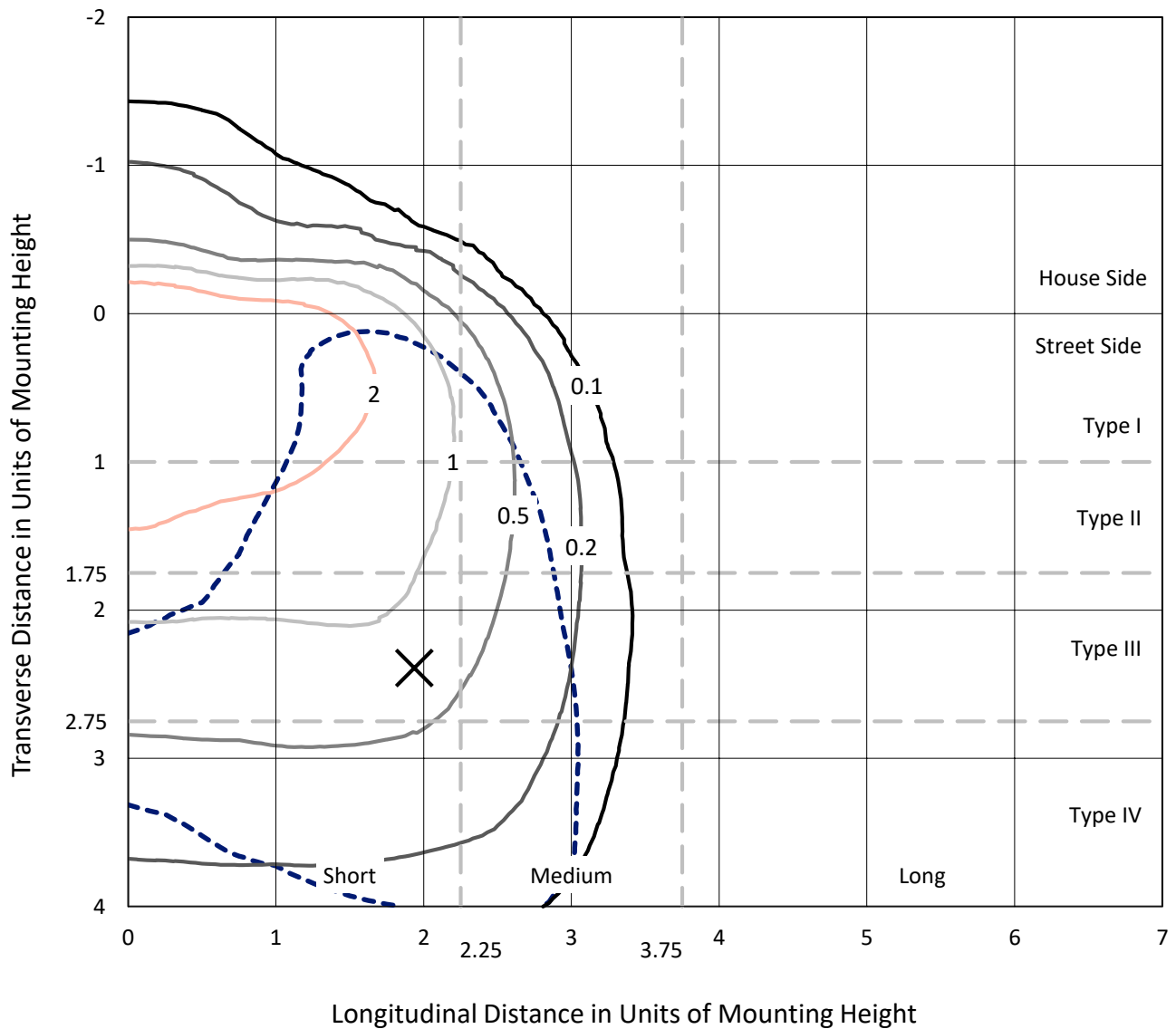


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

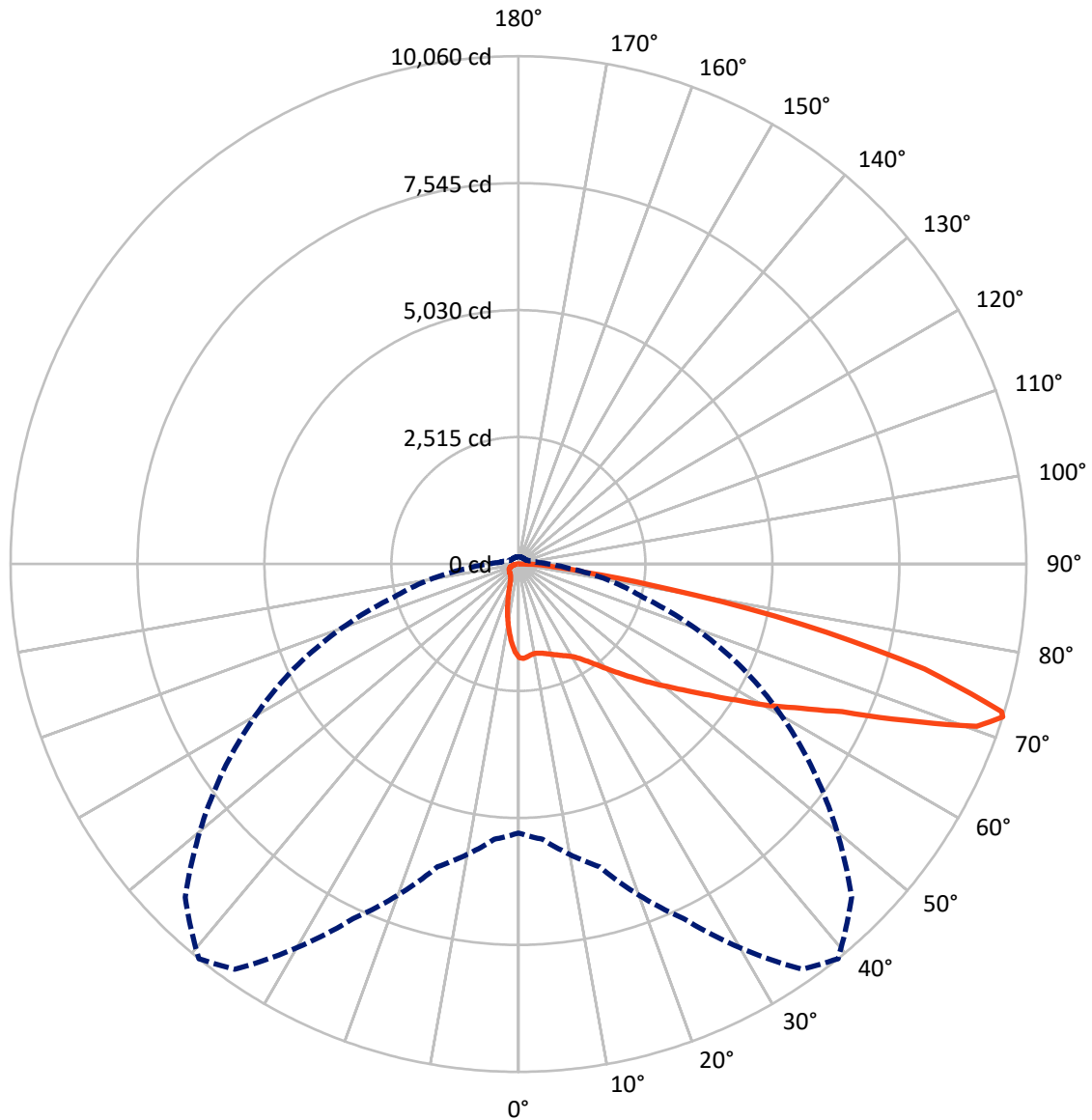


Based on 20 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Non-Cutoff

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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	1390.9	0.0	1390.9
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	10739.3	0.0	10739.3
	% Fixture	88.5	0.0	88.5
Total	Lumens	12130.1	0.0	12130.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.2	1.3
10°-20°	400.0	3.3
20°-30°	623.4	5.1
30°-40°	959.8	7.9
40°-50°	1564.7	12.9
50°-60°	2431.4	20.0
60°-70°	3254.4	26.8
70°-80°	2340.4	19.3
80°-90°	396.7	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°	12130.1	100.0
0°-180°	12130.1	100.0



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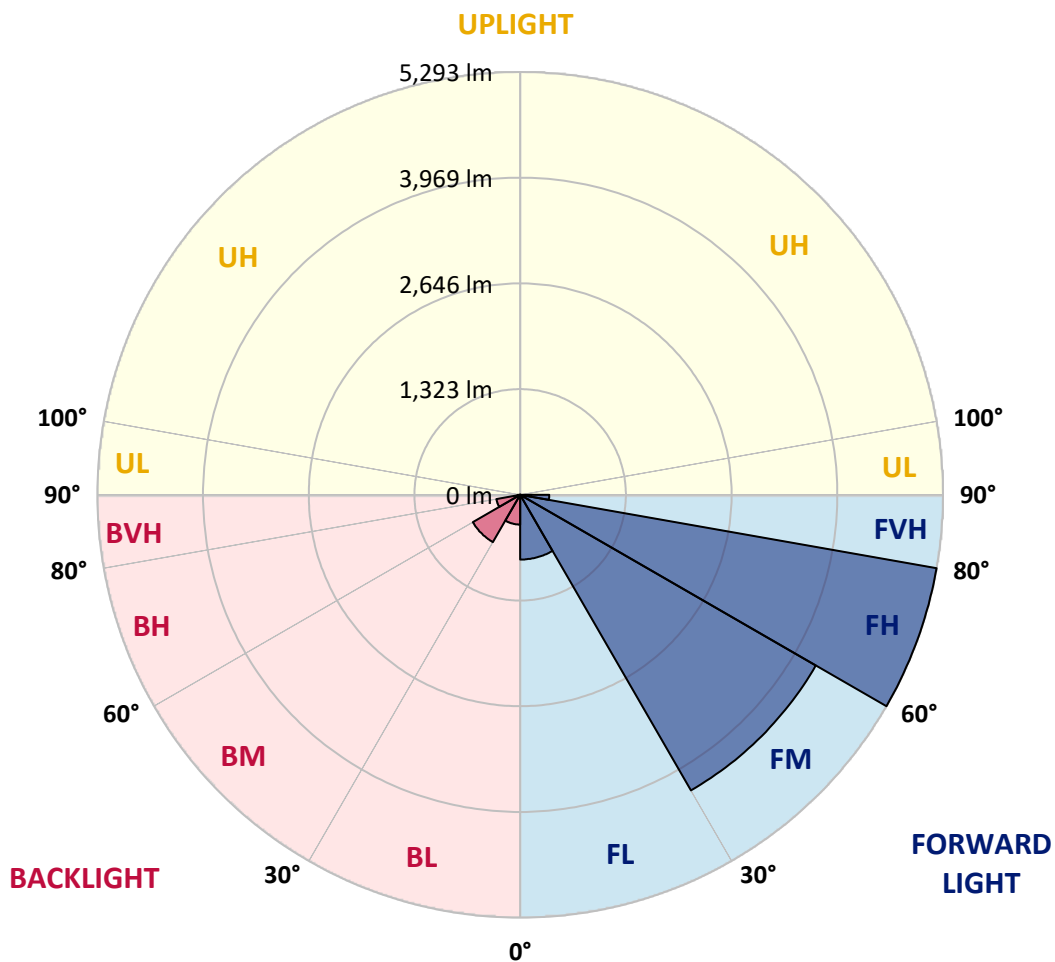
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	810.3	6.7			
FM	(30°-60°)	4272.5	35.2			
FH	(60°-80°)	5292.6	43.6			G3/7500
FVH	(80°-90°)	363.9	3.0			G3/500
BL	(0°-30°)	372.3	3.1	B1/500		
BM	(30°-60°)	683.5	5.6	B1/1000		
BH	(60°-80°)	302.2	2.5	B1/500		G1/500
BVH	(80°-90°)	32.8	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°	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5
2.5°	1892.4	1893.2	1890.8	1883.4	1876.9	1873.7	1867.9	1858.1	1845.2	1836.1	1828.9
5°	1874.5	1876.9	1875.3	1863.1	1851.6	1845.2	1836.1	1822.3	1805.2	1798.0	1780.8
7.5°	1860.6	1862.2	1857.3	1843.5	1821.6	1813.4	1797.1	1779.3	1763.7	1753.1	1732.8
10°	1850.9	1852.5	1848.4	1834.6	1810.2	1800.4	1780.8	1761.2	1740.9	1727.9	1705.2
12.5°	1837.0	1840.3	1840.3	1833.8	1817.5	1811.0	1791.4	1770.2	1751.5	1737.7	1709.1
15°	1834.6	1838.7	1845.9	1845.2	1840.3	1835.3	1820.0	1798.8	1782.4	1766.2	1731.2
17.5°	1854.9	1864.0	1878.5	1883.4	1880.2	1869.6	1851.6	1832.2	1814.1	1798.8	1755.6
20°	1906.3	1911.1	1933.2	1942.9	1926.5	1911.1	1887.5	1862.2	1845.9	1833.8	1778.4
22.5°	1983.5	1990.1	2008.0	2008.8	1974.7	1955.9	1925.7	1894.9	1879.3	1874.5	1809.4
25°	2107.3	2105.7	2110.6	2090.3	2028.4	2006.4	1969.8	1934.0	1923.4	1933.2	1854.9
27.5°	2255.6	2251.5	2236.1	2183.2	2089.5	2060.9	2017.0	1985.3	1985.3	2008.0	1916.9
30°	2426.5	2422.5	2372.1	2283.2	2162.0	2129.3	2082.9	2049.6	2066.6	2110.6	2000.6
32.5°	2607.3	2592.7	2521.8	2403.0	2265.3	2229.6	2184.7	2150.5	2183.2	2258.0	2121.2
35°	2777.5	2769.4	2682.2	2541.3	2398.8	2368.7	2337.7	2295.4	2347.6	2464.1	2291.3
37.5°	2953.4	2946.9	2840.3	2690.3	2561.7	2541.3	2515.3	2486.0	2570.0	2722.9	2521.8
40°	3149.6	3136.6	3002.2	2852.4	2751.5	2741.6	2727.9	2719.7	2854.9	3082.9	2813.3
42.5°	3372.0	3346.6	3173.3	3030.7	2958.3	2966.5	2959.0	2991.6	3198.4	3498.2	3160.2
45°	3626.0	3575.6	3343.4	3220.5	3187.0	3219.6	3235.2	3318.2	3604.8	3977.8	3547.9
47.5°	3863.8	3798.7	3529.9	3426.4	3445.2	3501.5	3545.4	3691.9	4050.3	4451.7	3943.6
50°	4082.7	4009.6	3729.5	3639.8	3731.0	3810.8	3902.1	4108.8	4524.1	4939.4	4306.7
52.5°	4244.9	4191.9	3928.8	3872.8	4059.3	4165.0	4310.7	4572.3	5002.9	5404.5	4630.9
55°	4370.3	4341.8	4123.5	4139.7	4430.5	4582.0	4758.6	5059.2	5509.5	5821.2	4891.5
57.5°	4515.2	4494.0	4345.8	4462.3	4891.5	5081.9	5290.4	5624.3	5991.4	6188.6	5095.7
60°	4668.3	4668.3	4593.4	4850.7	5468.0	5686.1	5893.8	6153.5	6471.8	6519.1	5178.8
62.5°	4784.0	4814.0	4840.8	5264.3	6015.1	6286.2	6514.2	6763.3	6969.4	6682.0	4983.3
65°	4951.6	5016.0	5167.4	5742.3	6692.6	7047.7	7355.4	7564.6	7372.5	6552.4	4345.8
67.5°	5240.0	5335.2	5657.6	6454.1	7729.9	8261.7	8560.6	8199.0	7293.5	5737.5	3328.8
70°	5499.7	5634.0	6185.3	7356.9	9078.5	9630.5	9492.8	8051.6	6352.3	4205.8	2048.0
72°	5326.9	5473.6	6209.8	7750.3	9799.0	10059.6	9334.1	7135.5	4908.5	2566.5	1009.8
72.5°	5213.9	5366.1	6130.8	7740.5	9818.7	10005.1	9113.5	6771.6	4455.8	2245.9	816.6
75°	4355.6	4485.9	5271.7	6860.4	8652.6	8310.6	7111.9	4382.4	2048.0	725.6	420.1
77.5°	2844.3	2943.7	3634.9	4752.9	6060.7	5731.7	4328.8	2052.0	768.0	440.4	315.9
80°	1429.1	1499.9	1945.3	2499.1	3271.0	3009.6	1998.2	992.5	513.8	318.4	248.3
82.5°	994.2	1059.5	1339.6	1276.0	1367.2	1323.3	939.6	828.1	384.4	201.1	130.3
85°	833.8	901.4	1108.1	909.5	744.2	678.3	673.4	782.6	254.0	99.4	110.0
87.5°	727.2	829.8	914.5	664.4	510.5	450.3	496.0	717.3	80.6	54.5	33.3
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°	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5	1852.5
2.5°	1816.6	1814.1	1802.0	1783.2	1769.4	1760.5	1743.4	1742.5	1744.1	1729.5	1735.3
5°	1765.3	1755.6	1723.8	1680.6	1645.7	1612.3	1575.6	1563.4	1552.8	1530.8	1533.2
7.5°	1711.6	1694.6	1639.1	1568.4	1500.7	1438.8	1377.8	1347.6	1324.8	1296.3	1296.3
10°	1679.9	1653.1	1568.4	1464.9	1357.3	1267.0	1175.8	1121.3	1081.4	1044.6	1042.3
12.5°	1678.3	1637.5	1519.5	1376.9	1229.6	1102.5	978.0	894.1	834.6	791.4	787.5
15°	1691.2	1634.2	1478.7	1294.6	1109.0	943.8	789.9	683.3	607.4	559.5	554.6
17.5°	1702.6	1630.2	1434.8	1208.4	991.8	790.7	619.7	508.9	437.2	398.2	394.0
20°	1713.2	1621.3	1378.5	1117.2	862.4	647.4	484.5	395.0	347.7	325.7	323.3
22.5°	1728.7	1613.0	1320.0	1014.5	735.4	526.9	399.8	335.4	310.3	299.7	298.0
25°	1754.0	1614.0	1262.9	909.5	618.8	438.9	346.0	306.1	292.3	285.0	285.0
27.5°	1790.6	1623.6	1206.8	802.8	520.3	378.6	314.2	290.7	281.8	276.0	274.4
30°	1844.3	1641.7	1147.3	701.9	442.1	337.1	295.6	280.9	273.7	268.8	268.0
32.5°	1922.6	1673.4	1084.7	609.9	382.7	307.8	281.8	272.7	267.1	263.1	262.1
35°	2039.0	1729.5	1023.6	531.7	340.4	286.6	270.3	263.1	259.8	258.2	257.4
37.5°	2210.0	1820.0	965.8	470.6	312.7	272.7	258.9	254.8	253.2	253.2	253.2
40°	2425.0	1938.8	913.7	427.6	297.2	262.1	250.7	247.6	247.6	248.3	248.3
42.5°	2686.3	2087.8	868.8	398.2	288.3	254.8	245.1	243.5	242.6	242.6	243.5
45°	2990.1	2263.6	841.2	375.4	281.8	250.7	241.0	240.1	237.0	235.4	235.4
47.5°	3295.4	2451.8	839.6	362.3	273.7	246.0	237.0	237.0	230.4	227.2	228.0
50°	3580.4	2620.4	857.4	359.1	268.8	238.6	232.9	233.6	224.8	220.7	219.8
52.5°	3810.0	2749.1	879.4	363.2	268.8	232.0	225.6	229.6	219.8	215.0	214.2
55°	3987.5	2838.6	887.5	372.1	271.9	226.4	219.0	225.6	218.2	211.7	211.7
57.5°	4114.5	2867.1	852.5	376.2	276.9	225.6	212.4	224.8	220.7	212.4	212.4
60°	4068.2	2701.8	722.2	360.7	276.0	223.9	207.7	226.4	228.8	219.8	219.8
62.5°	3705.8	2260.4	579.8	325.7	262.1	218.2	201.9	224.8	234.5	231.3	229.6
65°	3016.9	1657.9	449.5	284.1	238.6	206.0	189.7	210.1	221.5	224.8	225.6
67.5°	2126.1	1049.6	349.4	241.9	209.2	188.0	175.9	185.7	189.7	191.3	194.7
70°	1162.8	568.4	277.7	203.6	179.1	170.1	161.2	162.1	160.3	158.8	160.3
72°	583.9	371.3	234.5	176.6	158.8	153.2	148.9	146.6	146.6	144.1	144.9
72.5°	502.4	345.3	226.4	170.1	153.9	148.9	145.7	143.3	142.6	140.9	141.8
75°	334.7	273.7	189.0	142.6	131.2	127.9	129.4	127.0	127.9	126.2	127.0
77.5°	270.3	235.4	160.3	120.6	112.4	107.4	110.8	111.6	113.1	111.6	110.8
80°	226.4	200.3	134.3	99.4	93.7	89.7	91.2	96.8	97.7	92.9	91.9
82.5°	146.6	161.2	105.9	77.3	71.7	70.0	74.1	79.8	81.4	74.9	73.3
85°	123.0	129.4	76.5	52.9	47.3	45.6	53.8	59.5	63.5	57.0	55.3
87.5°	34.1	63.5	37.5	25.2	21.2	21.2	26.1	30.9	36.7	37.5	37.5
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)