

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: P270350

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270350
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
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-SL2-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11380.3 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

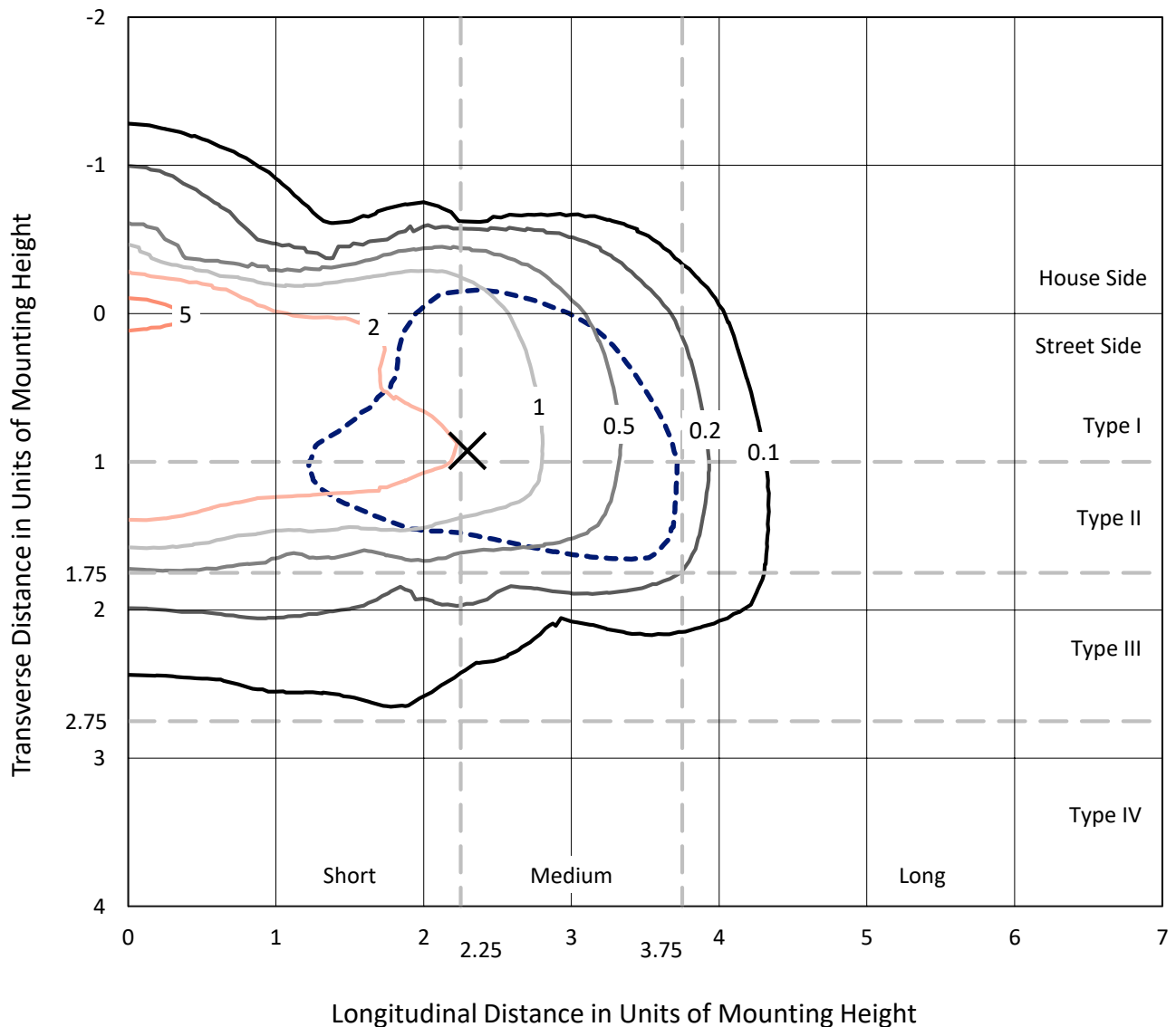
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

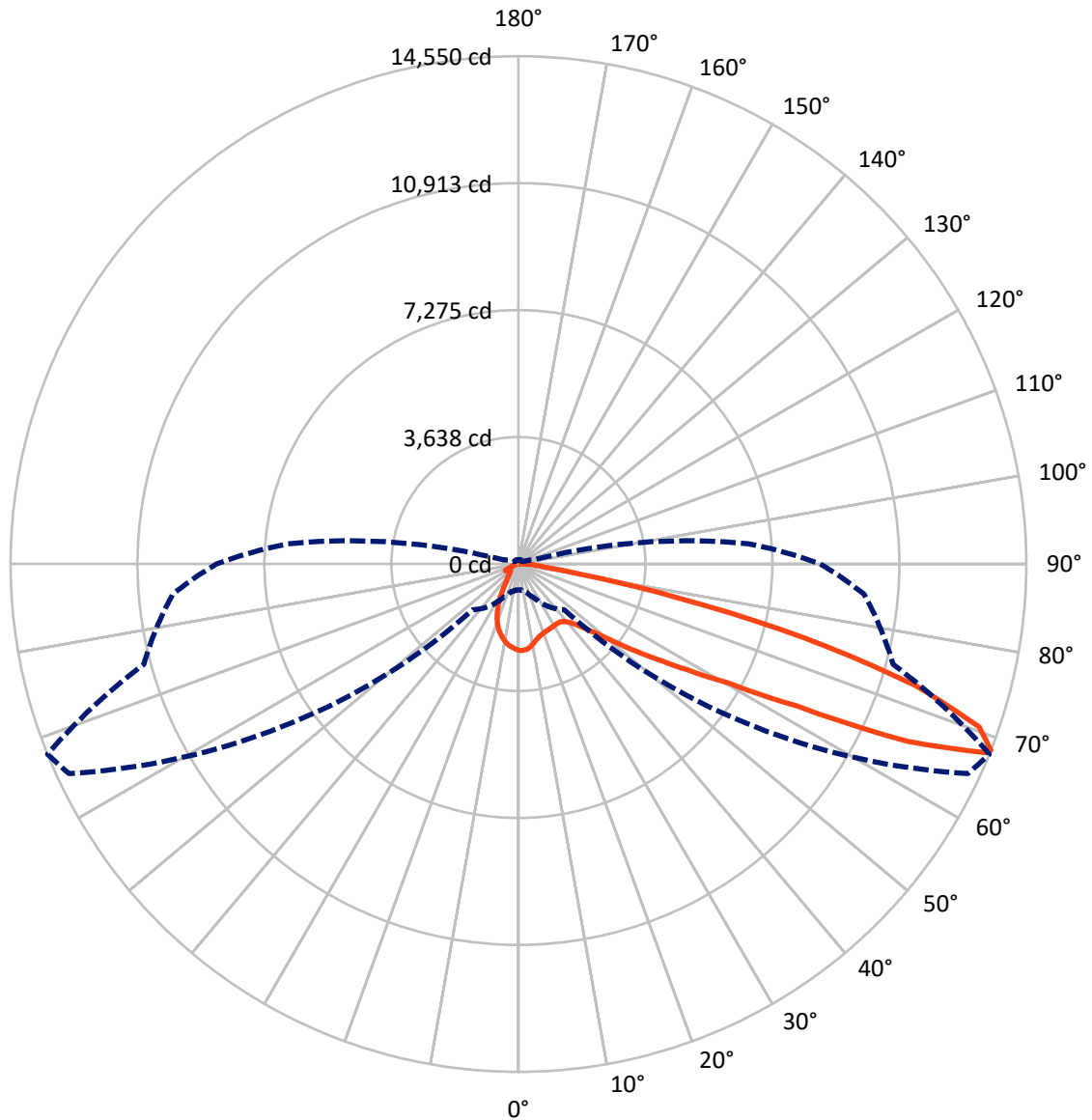
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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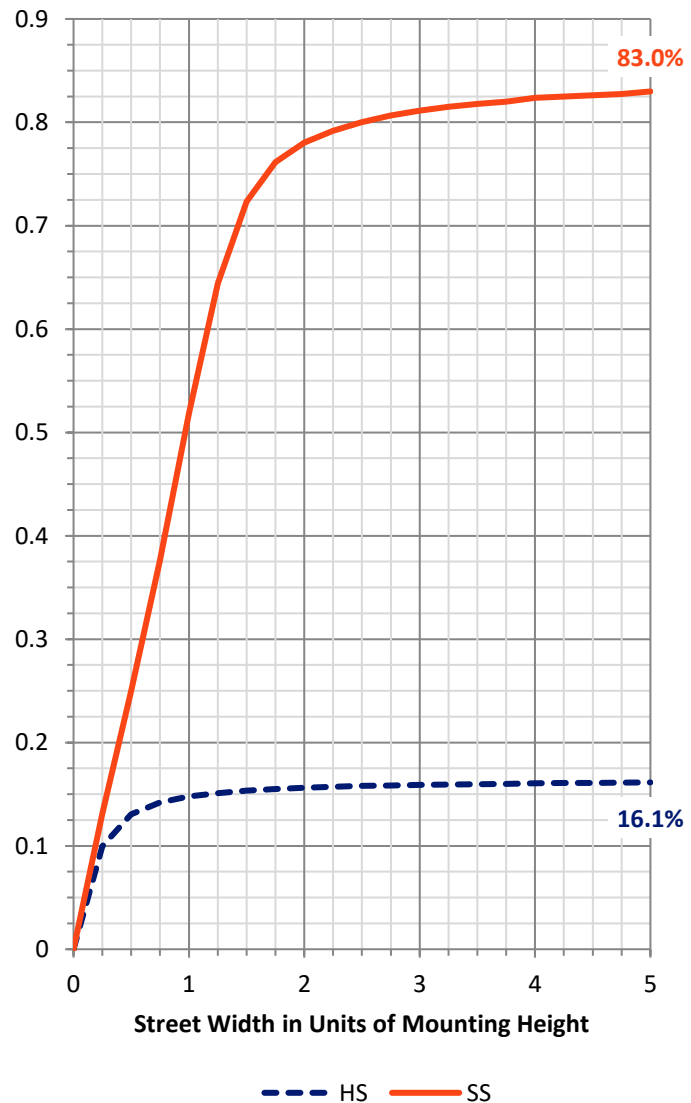
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1861.8	0.0	1861.8
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	9518.4	0.0	9518.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	11380.3	0.0	11380.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.2	1.9
10°-20°	492.1	4.3
20°-30°	665.5	5.8
30°-40°	938.4	8.2
40°-50°	1543.1	13.6
50°-60°	2391.9	21.0
60°-70°	3101.3	27.3
70°-80°	1779.7	15.6
80°-90°	256.0	2.2
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°	11380.3	100.0
0°-180°	11380.3	100.0

Coefficient of Utilization



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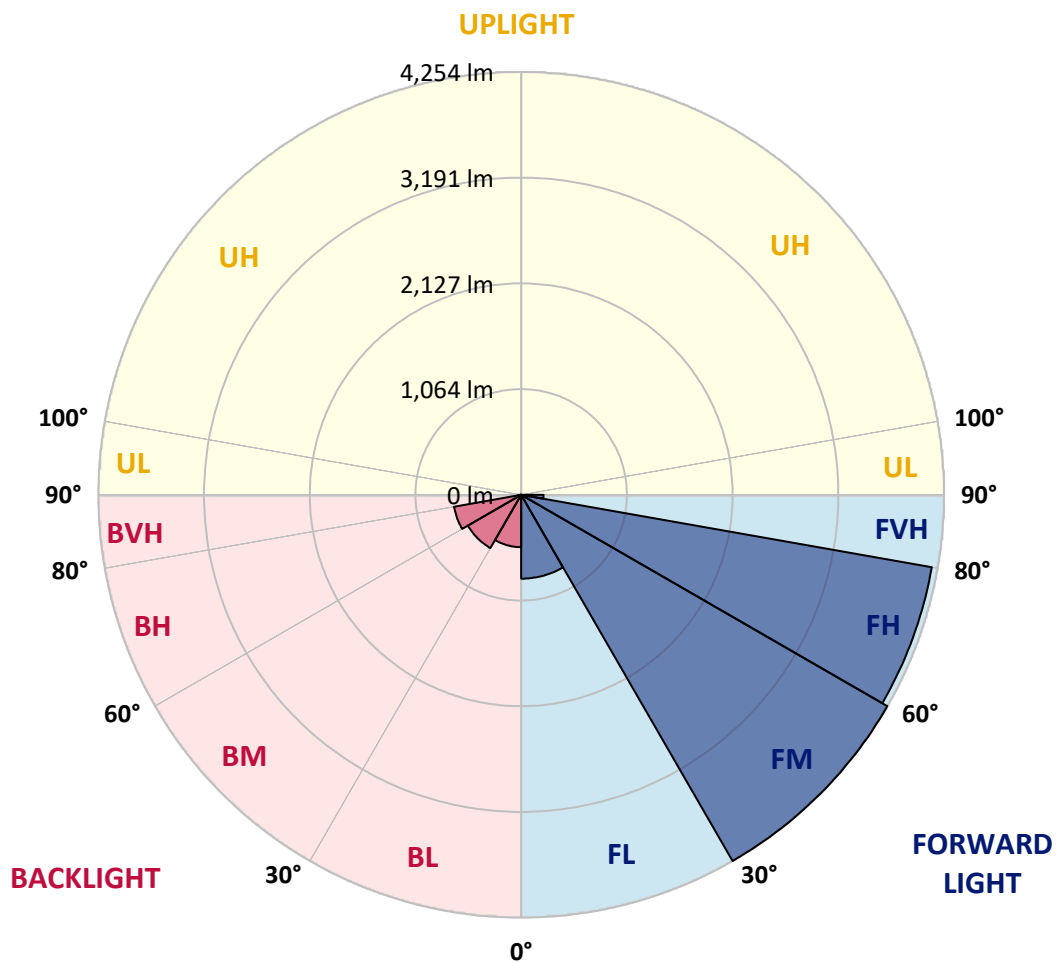
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	843.5	7.4			
FM (30°-60°)	4254.1	37.4			
FH (60°-80°)	4195.3	36.9			G2/5000
FVH (80°-90°)	225.5	2.0			G3/500
BL (0°-30°)	526.4	4.6	B2/1000		
BM (30°-60°)	619.3	5.4	B1/1000		
BH (60°-80°)	685.7	6.0	B2/1000		G2/1000
BVH (80°-90°)	30.5	0.3			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3
2.5°	2410.2	2429.5	2429.5	2443.5	2456.1	2466.6	2475.5	2475.5	2475.5	2469.6	2464.3
5°	2156.7	2182.6	2186.4	2222.0	2268.8	2326.2	2390.0	2446.5	2457.7	2478.5	2486.7
7.5°	1980.5	1988.6	2002.7	2027.3	2074.8	2145.4	2245.9	2372.2	2402.6	2468.1	2502.3
10°	1855.4	1862.1	1874.1	1898.7	1941.7	2005.6	2104.5	2268.8	2319.5	2435.3	2502.9
12.5°	1764.1	1769.3	1780.4	1802.7	1846.6	1903.9	2004.9	2176.0	2238.3	2402.6	2513.4
15°	1692.6	1701.6	1710.6	1732.1	1776.7	1831.7	1934.3	2108.2	2176.0	2376.6	2532.7
17.5°	1664.5	1669.0	1670.4	1681.5	1721.7	1777.4	1880.1	2060.7	2130.6	2355.8	2547.7
20°	1682.3	1683.1	1668.2	1660.7	1683.9	1735.0	1834.7	2025.0	2096.4	2337.2	2553.5
22.5°	1760.4	1760.4	1721.7	1689.1	1673.5	1705.3	1804.2	2000.4	2077.8	2323.0	2553.5
25°	1909.1	1902.3	1842.2	1777.4	1708.3	1694.9	1784.9	1984.8	2063.6	2315.7	2543.9
27.5°	2104.5	2098.6	2022.1	1926.1	1801.2	1717.2	1778.3	1972.1	2049.6	2304.5	2523.1
30°	2342.4	2337.2	2250.3	2124.6	1940.2	1787.8	1793.8	1963.2	2038.3	2285.9	2488.1
32.5°	2579.7	2576.6	2507.4	2378.8	2132.0	1907.6	1834.7	1961.8	2032.4	2263.5	2445.7
35°	2818.3	2818.3	2775.9	2667.2	2390.0	2087.4	1920.1	1989.3	2043.6	2251.7	2409.3
37.5°	3170.6	3156.5	3077.7	2965.5	2714.9	2321.0	2058.5	2047.2	2086.8	2271.9	2397.4
40°	3716.2	3675.3	3478.3	3289.6	3069.5	2619.7	2260.7	2159.5	2183.3	2340.3	2425.8
42.5°	4287.2	4222.5	3961.5	3659.8	3435.9	2988.4	2526.0	2341.7	2341.0	2472.6	2515.7
45°	4777.0	4743.6	4461.2	4078.2	3854.4	3403.3	2861.3	2612.4	2585.5	2677.7	2688.8
47.5°	5061.8	5039.5	4869.3	4521.3	4351.1	3893.2	3286.5	2987.8	2937.2	2992.2	2975.0
50°	4983.0	5004.5	4955.5	4777.7	4884.9	4581.5	3828.4	3502.1	3406.3	3461.3	3419.6
52.5°	4568.2	4626.1	4670.0	4704.2	5191.8	5502.6	4509.4	4144.4	4064.9	4055.2	4015.1
55°	3821.0	3913.2	4051.4	4302.8	5109.4	6242.3	5698.8	4921.3	4805.4	4744.4	4759.9
57.5°	2600.5	2740.2	3038.2	3516.2	4680.3	6557.4	7457.6	5924.9	5728.6	5511.6	5562.0
60°	1432.4	1549.2	1903.9	2385.5	3701.3	6510.6	9016.6	7555.9	6938.1	6362.8	6466.8
62.5°	927.1	952.4	1216.1	1629.5	2271.9	5748.0	9882.8	10281.9	8972.8	7485.2	7631.7
65°	744.9	762.8	892.0	1314.3	1582.6	3697.7	9921.3	13109.8	12246.7	9010.7	9015.1
67.5°	727.7	735.9	811.0	1105.5	1484.5	2013.1	8575.8	14224.8	14424.9	10811.2	9940.6
68°	738.1	747.8	823.7	1071.1	1483.8	1855.4	7926.0	14207.8	14550.4	11112.3	9940.6
70°	651.2	663.0	840.0	1108.4	1420.6	1595.3	5427.5	13453.1	14004.8	11804.4	9432.3
72.5°	340.5	330.8	415.6	874.9	1599.1	1662.3	2867.3	11239.4	11883.1	10932.4	8149.1
75°	265.4	241.6	232.8	345.7	1406.4	1723.9	1665.2	7988.4	8474.7	7880.7	5446.9
77.5°	249.8	220.9	203.6	204.5	619.2	1793.8	1347.0	4701.2	4701.2	3759.3	1738.0
80°	200.7	173.9	162.9	185.9	298.9	1653.3	1405.8	2142.5	1827.2	971.5	478.7
82.5°	132.3	118.1	118.9	150.9	226.7	1103.9	1628.1	1057.8	794.7	430.4	281.8
85°	84.0	72.1	80.3	105.6	169.5	492.1	1611.6	735.3	526.3	241.6	140.6
87.5°	42.4	32.7	40.2	54.9	103.3	141.3	1326.9	656.4	390.3	100.4	76.5
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°	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3	2476.3
2.5°	2464.3	2448.1	2439.8	2426.4	2410.2	2393.8	2382.6	2377.4	2374.4	2375.8	2375.2
5°	2482.1	2460.6	2425.8	2375.8	2324.6	2270.3	2228.7	2196.7	2176.7	2170.8	2169.2
7.5°	2495.6	2464.3	2399.0	2308.3	2220.5	2125.4	2044.4	1979.7	1935.8	1915.7	1914.9
10°	2493.3	2453.2	2349.8	2216.1	2087.4	1947.6	1820.5	1712.0	1633.3	1595.3	1593.9
12.5°	2495.6	2440.5	2289.7	2108.2	1923.9	1723.9	1535.2	1366.3	1249.0	1193.2	1191.0
15°	2504.6	2427.2	2227.9	1987.8	1732.8	1450.4	1180.6	968.6	861.7	825.2	825.2
17.5°	2503.8	2404.9	2156.7	1848.1	1506.1	1127.7	805.8	674.9	664.6	698.1	703.3
20°	2488.8	2369.2	2064.5	1682.3	1240.0	780.5	546.3	527.8	611.0	703.3	713.7
22.5°	2465.8	2323.0	1958.0	1489.7	929.9	508.5	421.6	449.7	562.8	677.2	693.6
25°	2433.9	2267.3	1836.1	1266.0	618.6	365.8	351.6	386.6	466.1	542.7	554.6
27.5°	2387.1	2196.7	1703.1	1023.7	394.7	301.1	306.3	330.8	365.0	397.7	404.3
30°	2328.2	2114.3	1558.2	755.2	299.6	269.1	278.0	292.8	307.8	328.6	333.0
32.5°	2268.8	2030.2	1407.3	519.0	261.6	252.1	261.0	269.1	281.8	295.9	298.9
35°	2215.3	1952.1	1251.9	362.0	245.2	240.8	245.2	250.5	263.2	277.2	278.7
37.5°	2176.7	1888.1	1089.9	286.2	235.6	231.3	233.4	235.6	250.5	271.4	273.5
40°	2171.5	1845.8	925.6	257.3	228.2	222.3	220.9	222.3	241.6	265.4	267.6
42.5°	2222.0	1848.1	764.9	245.2	222.3	215.7	209.7	212.5	229.6	248.3	249.8
45°	2341.7	1900.2	625.8	240.0	217.1	211.9	202.9	204.5	212.5	222.3	223.8
47.5°	2552.9	2013.9	519.6	237.2	212.5	208.1	197.0	192.5	193.2	198.4	198.4
50°	2890.3	2204.3	454.9	234.2	208.9	200.7	188.0	179.1	177.0	179.9	180.6
52.5°	3393.5	2530.5	423.7	228.2	202.2	191.1	177.0	168.1	164.3	167.3	167.3
55°	4073.9	3051.6	408.9	220.1	194.0	179.1	166.5	159.1	156.1	158.3	158.3
57.5°	4849.2	3728.9	434.2	208.9	183.7	166.5	157.7	152.4	150.1	152.4	153.2
60°	5770.3	4615.0	608.2	194.8	172.5	155.3	150.1	147.2	145.7	148.0	148.0
62.5°	6994.7	5794.0	941.2	183.7	160.5	144.9	143.5	142.0	140.6	142.7	142.7
65°	8316.4	6866.7	968.6	177.0	150.1	136.1	136.8	136.8	135.4	137.5	137.5
67.5°	8737.2	6773.8	541.1	168.7	137.5	127.1	130.1	130.1	129.4	131.6	130.9
68°	8648.0	6626.5	471.3	166.5	135.4	124.9	127.9	128.5	127.9	130.1	129.4
70°	7983.2	5817.9	309.9	153.9	125.7	117.5	121.9	122.7	121.9	124.9	124.1
72.5°	6590.1	4363.7	229.0	134.6	113.7	107.7	112.3	112.9	113.7	116.7	116.1
75°	4185.4	2410.2	180.6	114.4	101.9	96.7	101.1	103.3	104.8	109.2	107.1
77.5°	1146.2	731.5	146.5	97.3	87.8	85.5	88.5	91.4	93.0	98.2	94.4
80°	401.5	323.4	121.9	82.6	72.9	72.1	75.1	78.1	79.5	84.0	79.5
82.5°	243.8	211.1	97.3	64.7	57.2	56.6	60.2	63.2	64.7	64.7	61.8
85°	127.1	111.5	71.3	45.4	39.3	37.2	43.8	47.6	48.2	47.6	45.4
87.5°	71.3	63.2	37.9	21.6	17.8	18.5	23.0	28.2	30.5	29.7	28.2
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)