

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: P270507

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL2-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11392.1 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

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

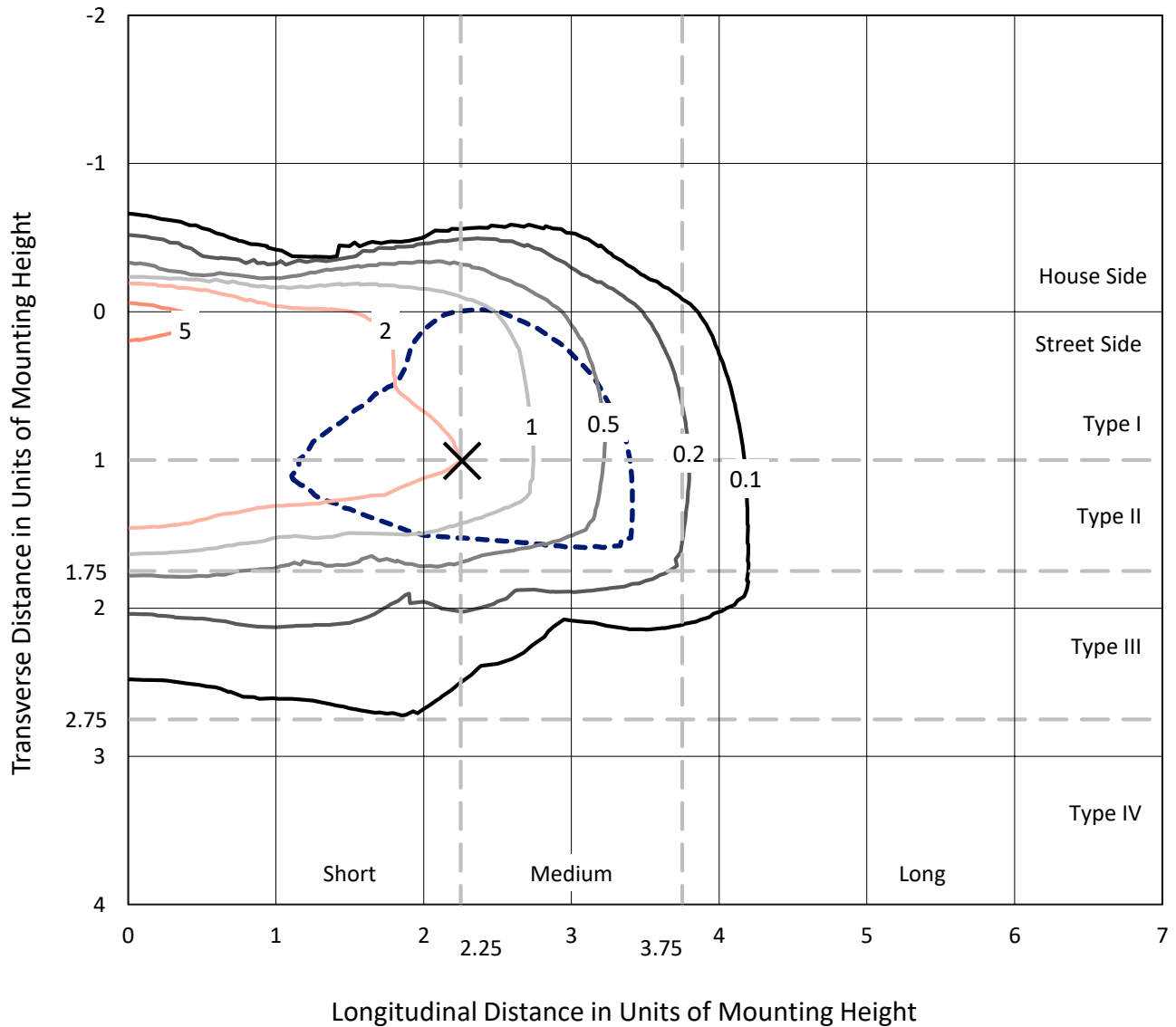


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

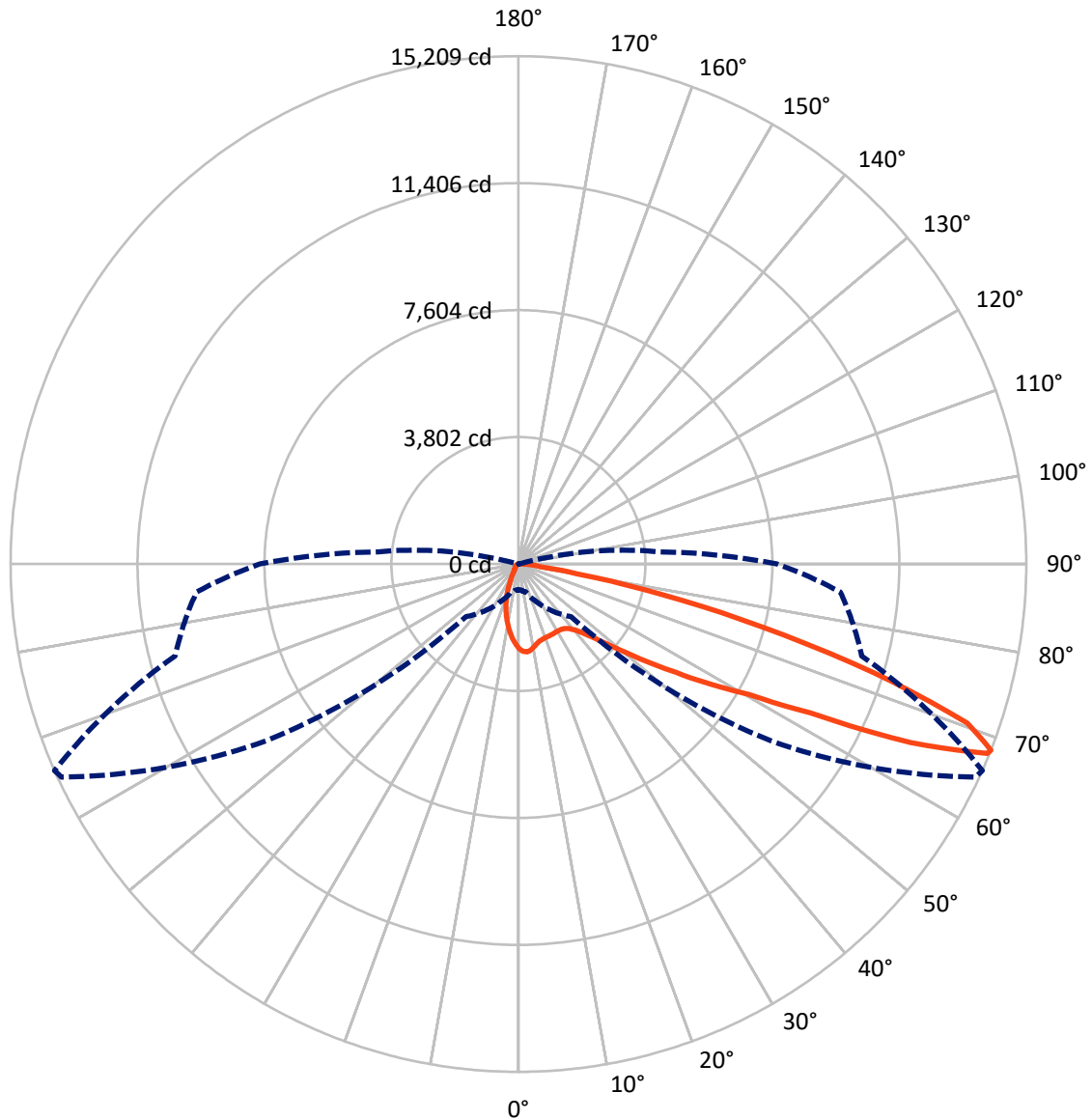


Based on 20 foot mounting height. Maximum calculated value = 6.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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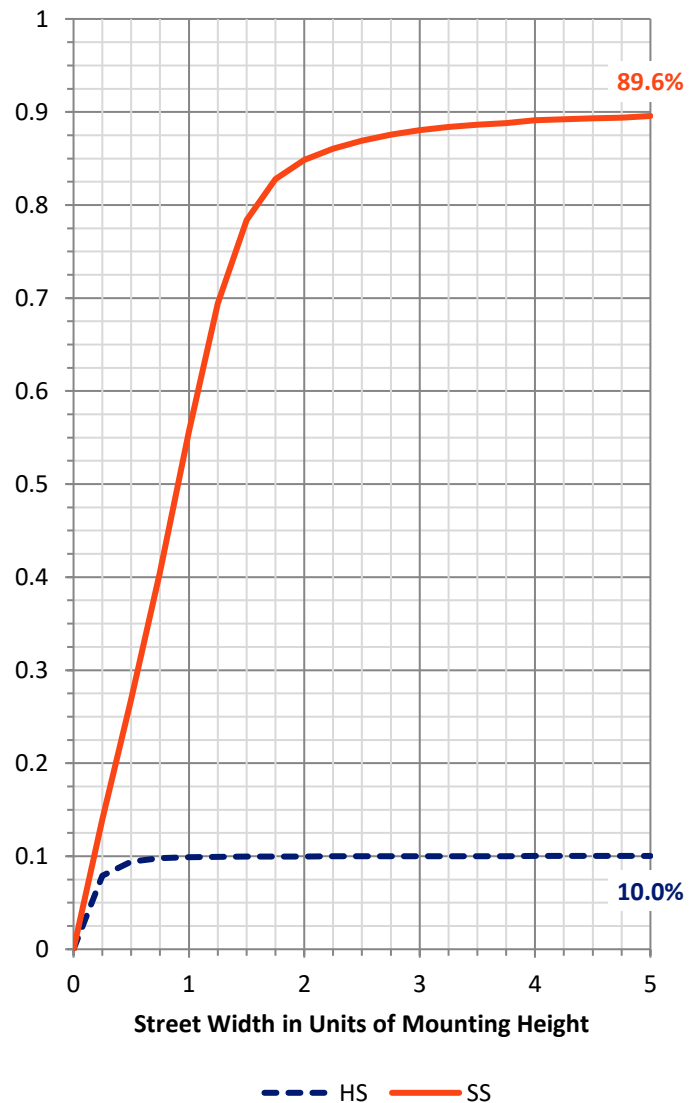
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1153.9	0.0	1153.9
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	10238.2	0.0	10238.2
	% Fixture	89.9	0.0	89.9
Total	Lumens	11392.1	0.0	11392.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.1	1.8
10°-20°	447.7	3.9
20°-30°	648.7	5.7
30°-40°	993.1	8.7
40°-50°	1698.6	14.9
50°-60°	2657.1	23.3
60°-70°	3059.5	26.9
70°-80°	1531.0	13.4
80°-90°	148.3	1.3
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°	11392.1	100.0
0°-180°	11392.1	100.0



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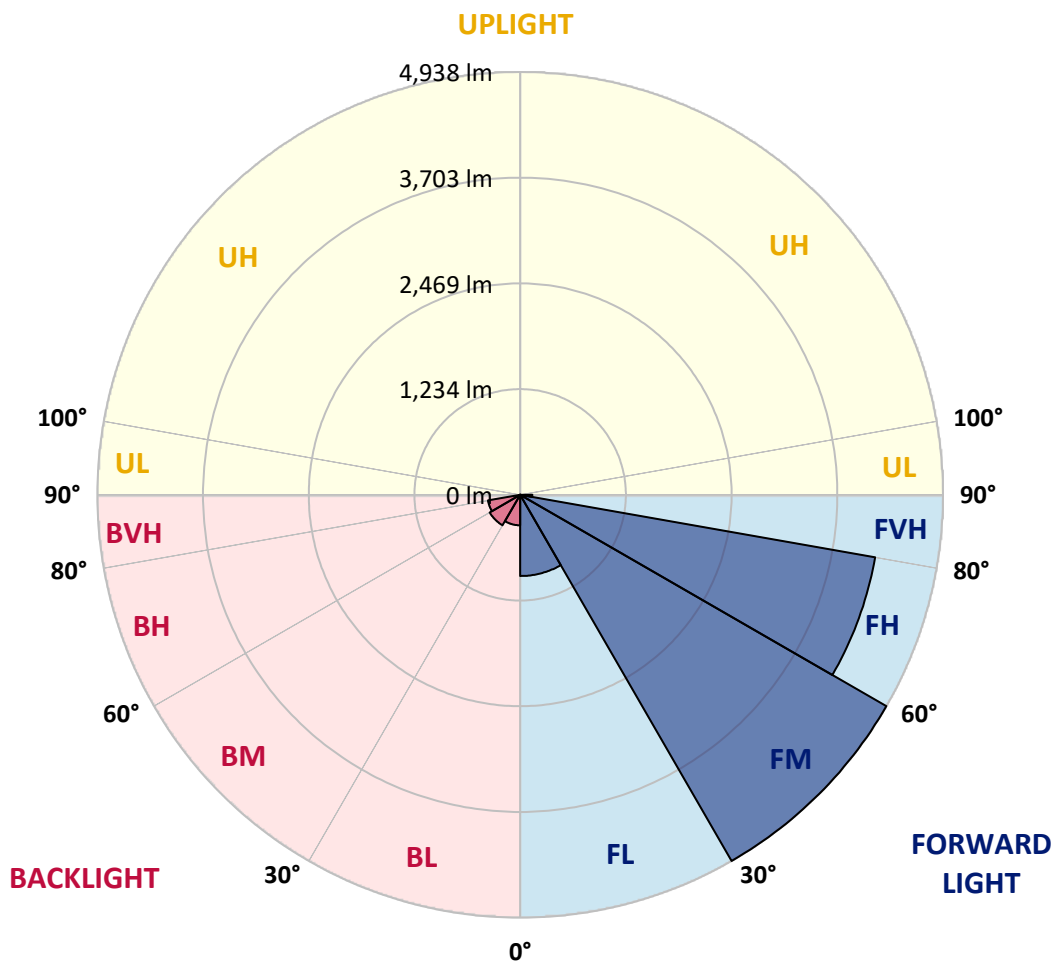
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	948.3	8.3			
FM (30°-60°)	4937.8	43.3			
FH (60°-80°)	4209.3	36.9			G2/5000
FVH (80°-90°)	142.7	1.3			G2/225
BL (0°-30°)	356.1	3.1	B1/500		
BM (30°-60°)	410.9	3.6	B1/1000		
BH (60°-80°)	381.3	3.3	B1/500		G1/500
BVH (80°-90°)	5.6	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-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0
2.5°	2669.6	2671.3	2670.4	2673.0	2671.3	2657.8	2643.5	2613.2	2615.9	2576.5	2532.7
5°	2481.7	2496.8	2512.1	2527.3	2564.0	2596.2	2634.5	2643.5	2643.5	2609.5	2545.2
7.5°	2290.3	2291.1	2308.3	2328.8	2378.0	2437.0	2526.5	2606.9	2608.7	2617.7	2547.0
10°	2146.3	2150.8	2162.4	2184.8	2233.9	2292.1	2392.2	2518.4	2528.2	2594.3	2529.1
12.5°	2034.5	2040.0	2052.4	2078.4	2123.1	2183.1	2288.5	2432.5	2445.9	2572.0	2523.8
15°	1948.8	1955.9	1965.8	1991.6	2040.0	2103.4	2218.8	2375.3	2391.4	2563.0	2540.8
17.5°	1912.9	1912.9	1912.0	1929.9	1978.2	2042.6	2163.3	2344.8	2365.4	2570.2	2569.3
20°	1928.1	1925.4	1906.7	1902.3	1931.6	1996.2	2119.6	2325.3	2348.4	2583.6	2604.2
22.5°	2008.6	2003.2	1961.2	1926.3	1917.4	1960.3	2089.9	2311.8	2339.5	2611.4	2650.7
25°	2179.4	2163.3	2105.2	2026.4	1955.9	1951.4	2069.4	2304.6	2334.2	2643.5	2701.7
27.5°	2401.2	2396.8	2303.8	2198.2	2062.2	1980.9	2063.1	2299.2	2328.8	2666.8	2742.9
30°	2676.7	2678.4	2571.0	2433.4	2227.7	2064.0	2082.8	2296.5	2327.0	2668.7	2760.8
32.5°	2961.1	2962.8	2873.4	2725.8	2454.0	2207.1	2138.2	2309.2	2336.9	2661.5	2759.9
35°	3234.6	3237.4	3183.8	3064.7	2756.3	2405.8	2242.9	2352.0	2371.7	2665.9	2758.1
37.5°	3580.9	3591.6	3525.4	3414.5	3135.4	2697.3	2413.7	2438.8	2454.9	2702.6	2771.5
40°	4171.0	4156.7	3967.2	3779.3	3546.8	3052.4	2660.6	2588.1	2593.4	2797.4	2822.5
42.5°	4858.8	4840.8	4516.3	4192.5	3969.8	3480.7	2976.3	2817.1	2816.1	2956.6	2933.3
45°	5450.7	5440.0	5098.4	4666.4	4438.4	3953.7	3365.3	3147.0	3136.3	3232.0	3135.4
47.5°	5871.1	5862.2	5603.7	5170.9	4980.5	4474.2	3850.9	3597.0	3574.5	3592.4	3463.7
50°	5912.3	5902.5	5812.2	5534.0	5613.6	5237.9	4450.9	4186.2	4157.6	4129.9	3960.0
52.5°	5527.7	5526.8	5574.3	5556.3	6057.1	6220.9	5187.0	4915.0	4881.1	4810.5	4641.5
55°	4741.7	4737.1	4917.0	5178.0	6047.3	7234.9	6309.3	5782.6	5737.8	5596.6	5374.7
57.5°	3464.6	3441.2	3816.9	4370.4	5622.5	7678.5	8091.8	6860.3	6785.9	6337.9	5996.4
60°	1912.9	1921.8	2404.9	3060.3	4616.4	7590.9	9731.9	8116.7	7921.8	6977.3	6633.1
62.5°	1072.2	1094.7	1454.1	1988.9	2943.1	6879.8	10611.9	10279.1	9809.6	7723.3	7438.0
65°	811.1	824.6	1005.3	1534.7	1855.7	4807.8	10752.3	13302.8	12897.7	8853.6	8719.5
67.5°	763.6	774.5	863.0	1272.5	1690.3	2493.3	9695.1	15091.4	15142.4	10395.5	9712.1
68°	769.0	782.6	871.0	1224.3	1687.6	2230.4	9244.5	15100.4	15208.6	10644.0	9678.2
70°	706.4	710.1	921.1	1201.0	1635.6	1757.4	6687.6	14065.7	14259.8	10940.1	8785.7
72.5°	270.1	271.0	413.2	1040.1	1713.4	1767.1	3368.9	11117.2	11126.9	9520.7	6849.4
75°	140.4	118.0	129.6	325.5	1636.6	1722.4	1690.3	7590.9	7543.4	6439.1	4197.1
77.5°	96.6	82.3	86.7	112.6	680.6	1721.5	1220.7	4365.1	4355.3	2739.2	1197.5
80°	54.5	47.4	51.8	94.9	238.8	1616.1	1137.6	1876.3	1768.0	481.1	194.0
82.5°	27.7	23.3	27.7	79.6	148.5	1016.8	1106.3	736.0	655.6	114.4	126.1
85°	7.1	7.1	13.5	55.4	92.2	333.6	991.8	531.2	477.5	50.0	89.4
87.5°	1.7	0.9	5.4	20.7	33.1	72.5	550.0	296.0	254.8	26.0	51.8
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°	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0	2538.0
2.5°	2514.7	2489.7	2440.5	2385.1	2345.7	2302.8	2277.8	2247.4	2224.2	2203.5	2218.8
5°	2505.8	2457.6	2348.4	2225.9	2123.1	2024.7	1951.4	1881.6	1828.9	1795.8	1809.1
7.5°	2482.6	2411.1	2233.9	2042.6	1874.5	1716.2	1587.3	1472.1	1382.6	1334.3	1349.6
10°	2443.2	2342.2	2104.3	1838.7	1603.5	1379.9	1188.5	1016.8	887.2	826.4	840.6
12.5°	2414.6	2281.3	1970.2	1641.9	1332.5	1015.1	761.0	564.3	463.3	402.4	407.8
15°	2402.1	2233.9	1844.9	1434.5	1036.6	652.0	411.3	297.8	262.9	250.4	251.3
17.5°	2404.0	2196.4	1726.1	1218.9	737.8	374.8	252.2	227.1	221.8	219.0	219.0
20°	2408.4	2158.8	1602.5	994.5	472.1	241.5	210.2	202.1	199.5	195.8	196.8
22.5°	2421.8	2130.2	1478.3	769.0	290.6	196.8	185.9	178.9	174.5	169.1	169.9
25°	2442.3	2108.9	1355.7	553.5	204.9	171.7	161.9	152.1	144.0	137.7	138.6
27.5°	2454.9	2078.4	1225.2	377.4	169.9	150.2	136.8	123.3	114.4	109.1	108.2
30°	2445.9	2029.2	1076.8	247.8	150.2	129.6	113.5	98.4	89.4	85.0	85.0
32.5°	2421.8	1965.8	913.0	180.6	133.3	111.7	92.2	78.7	72.5	69.8	70.6
35°	2394.1	1899.5	738.6	152.9	119.8	94.9	75.1	64.4	61.8	60.8	60.8
37.5°	2378.8	1842.2	571.4	138.6	107.3	78.7	61.8	55.4	52.8	52.8	52.8
40°	2395.9	1798.4	423.0	127.9	94.9	65.2	51.8	47.4	46.5	46.5	46.5
42.5°	2468.4	1783.2	309.5	118.9	82.3	54.5	44.7	41.1	40.2	41.1	41.1
45°	2609.5	1816.4	234.3	110.0	70.6	44.7	38.4	35.8	35.8	36.7	36.7
47.5°	2849.2	1901.4	192.2	101.1	59.0	37.5	33.1	31.4	31.4	32.2	32.2
50°	3221.3	2058.6	172.7	91.2	49.1	32.2	27.7	26.8	26.8	27.7	28.7
52.5°	3786.4	2358.3	162.8	81.3	40.2	26.8	23.3	22.4	23.3	24.2	24.2
55°	4415.2	2741.9	151.2	71.5	34.0	22.4	18.8	18.8	19.7	21.5	21.5
57.5°	5001.0	3112.2	140.4	59.0	29.6	17.8	15.2	15.2	17.0	18.8	18.8
60°	5619.8	3475.3	126.1	47.4	25.1	14.4	12.5	12.5	15.2	17.0	17.8
62.5°	6384.4	3897.3	107.3	37.5	19.7	10.7	9.0	11.6	14.4	17.0	17.0
65°	7489.8	4422.4	84.1	29.6	15.2	8.1	7.1	10.7	13.5	16.1	17.0
67.5°	7891.4	4355.3	63.5	24.2	11.6	6.3	6.3	9.8	13.5	16.1	16.1
68°	7744.6	4208.6	60.8	23.3	10.7	6.3	6.3	9.8	13.5	16.1	16.1
70°	6748.4	3440.4	50.0	17.8	9.0	5.4	5.4	9.0	13.5	15.2	16.1
72.5°	5052.8	2285.8	42.8	11.6	8.1	5.4	4.5	9.0	12.5	15.2	15.2
75°	2898.4	948.9	36.7	9.0	7.1	4.5	4.5	8.1	12.5	15.2	15.2
77.5°	819.2	221.8	29.6	7.1	6.3	4.5	3.6	8.1	11.6	14.4	14.4
80°	150.2	66.1	23.3	6.3	5.4	4.5	3.6	8.1	11.6	14.4	14.4
82.5°	99.3	31.4	17.0	6.3	5.4	4.5	3.6	7.1	10.7	13.5	13.5
85°	74.2	22.4	10.7	6.3	5.4	4.5	3.6	7.1	10.7	13.5	13.5
87.5°	41.1	9.8	8.1	7.1	6.3	4.5	3.6	6.3	9.8	12.5	12.5
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)