

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: P884146

Luminaire Tested: **NAV-SB4D-827-U-T2-HSS**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P884146  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB4D-827-U-T2-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(4) 80 CRI, 2700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II  
OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

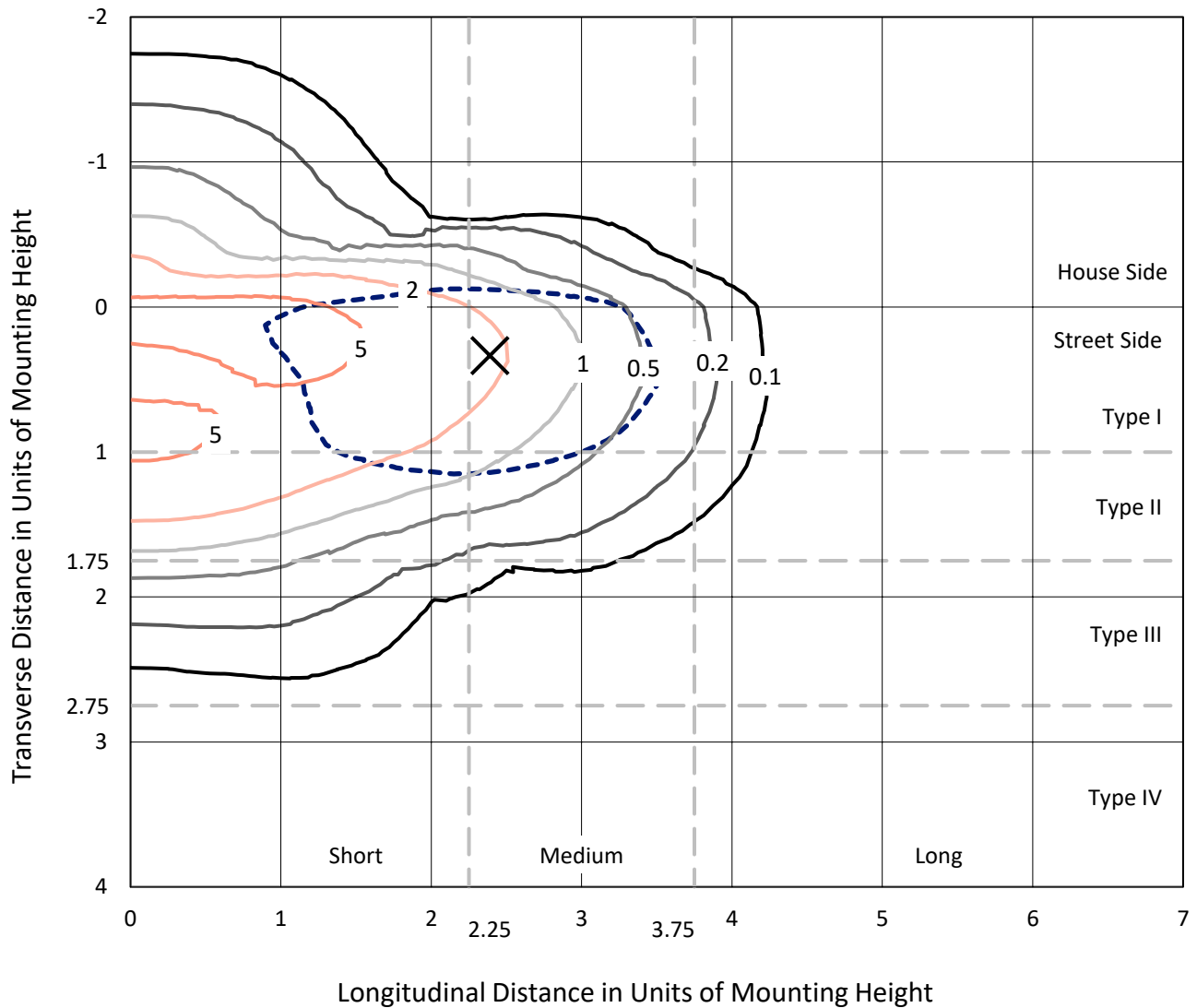
Lumens per Lamp: N/A  
Luminaire Lumens: 24468 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 293.6  
Input Voltage (V): 120.0  
Input Current (Ain): 2.469  
Voltage Rise (V): NR  
Power Factor: 0.999  
Total Harmonic Distortion (THDi): 3.108  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

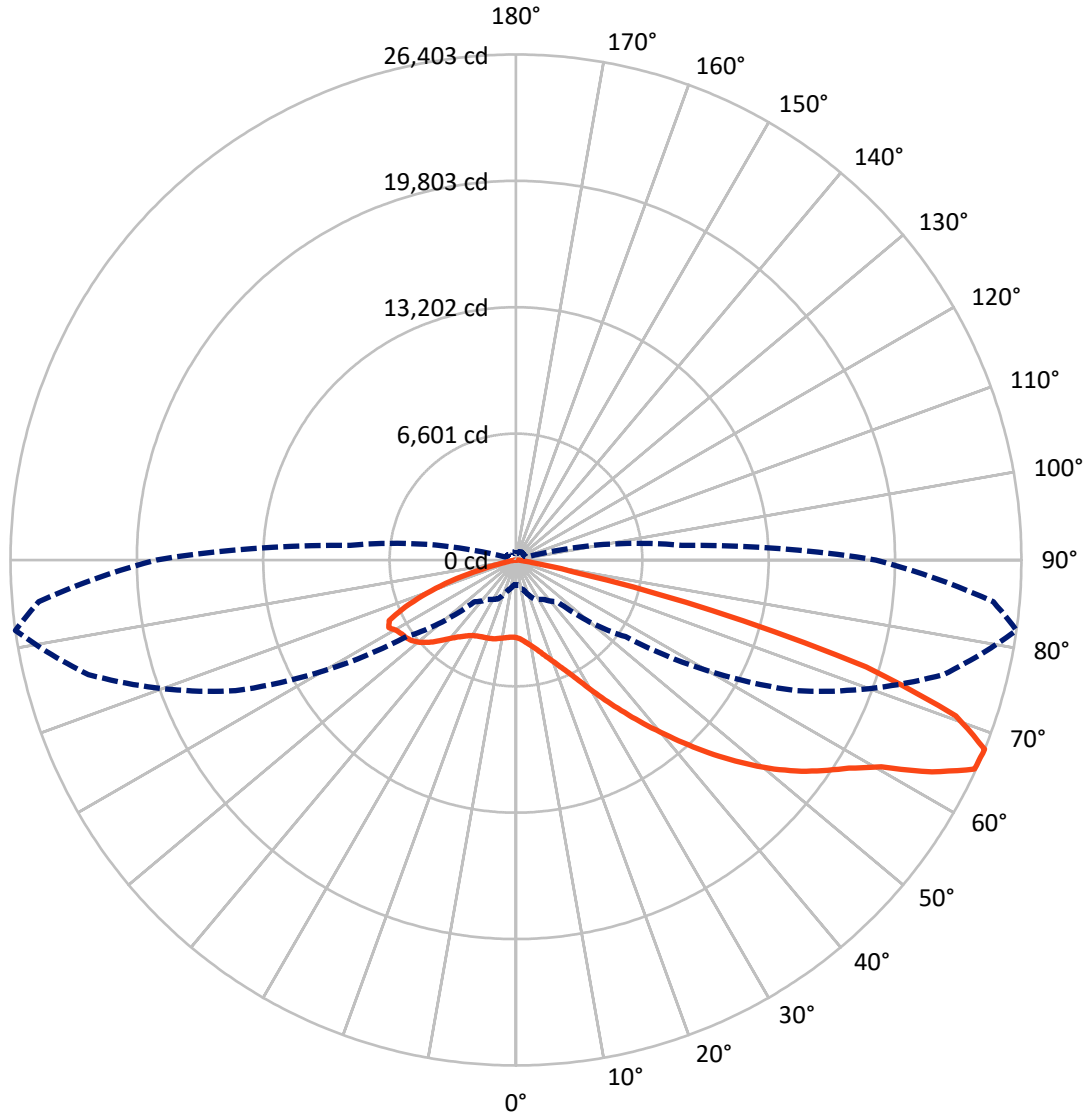
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.6 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 82-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4432.2	0.0	4432.2
	% Fixture	18.1	0.0	18.1
<b>Street Side</b>	Lumens	20035.8	0.0	20035.8
	% Fixture	81.9	0.0	81.9
<b>Total</b>	Lumens	24468.0	0.0	24468.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	361.1	1.5
10°-20°	938.5	3.8
20°-30°	1503.1	6.1
30°-40°	2657.9	10.9
40°-50°	4657.0	19.0
50°-60°	6211.1	25.4
60°-70°	5782.2	23.6
70°-80°	2219.2	9.1
80°-90°	137.8	0.6
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°	24468.0	100.0
0°-180°	24468.0	100.0

**Coefficient of Utilization**



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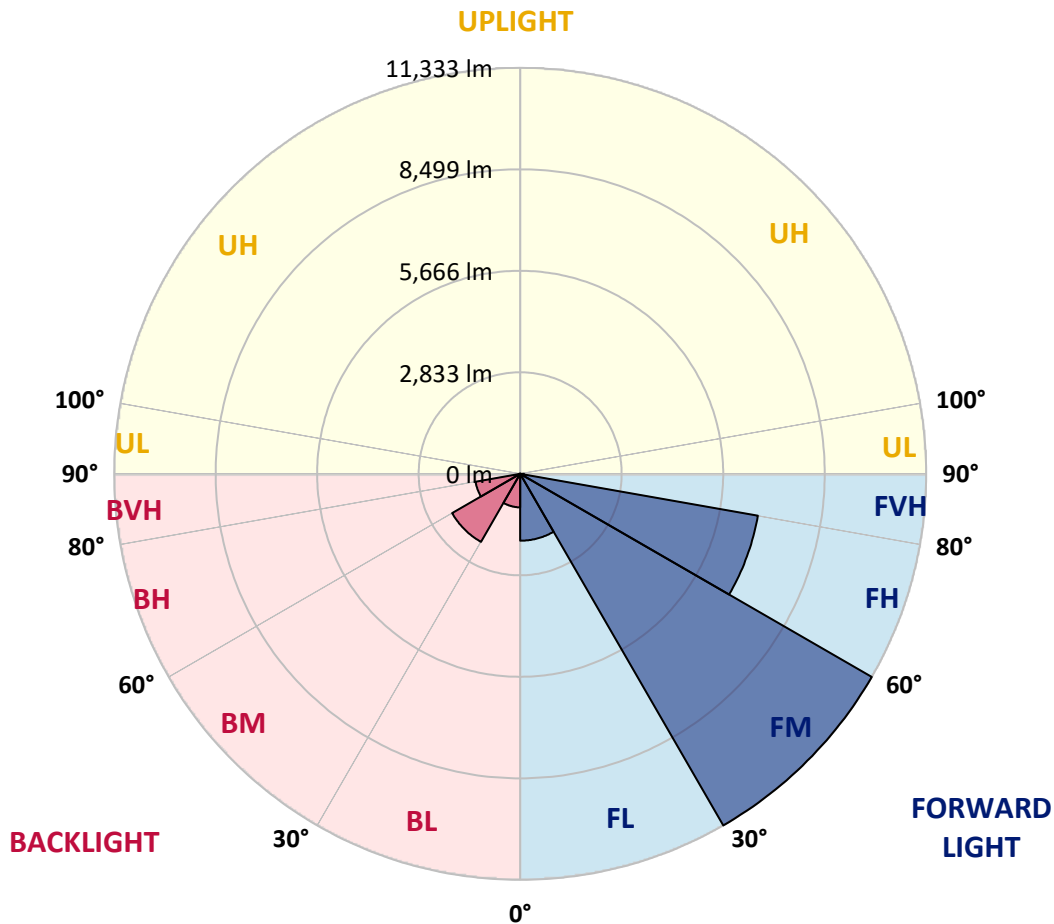
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1866.6	7.6			
FM (30°-60°)	11332.6	46.3			
FH (60°-80°)	6736.4	27.5			G3/7500
FVH (80°-90°)	100.2	0.4			G2/225
BL (0°-30°)	936.1	3.8	B2/1000		
BM (30°-60°)	2193.5	9.0	B2/2500		
BH (60°-80°)	1265.0	5.2	B3/2500		G3/2500
BVH (80°-90°)	37.6	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	82°	85°
0°	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5
2.5°	4284.3	4309.0	4294.9	4287.8	4275.5	4257.9	4243.8	4199.7	4153.9	4124.0	4113.4
5°	4370.6	4395.3	4393.5	4400.6	4409.4	4414.7	4411.1	4361.8	4296.6	4245.5	4215.6
7.5°	4296.6	4324.8	4347.7	4382.9	4444.6	4509.8	4541.5	4530.9	4464.0	4393.5	4356.5
10°	4087.0	4116.9	4171.5	4254.3	4384.7	4525.6	4643.7	4698.3	4656.0	4578.5	4527.4
12.5°	3703.0	3732.9	3840.4	4020.0	4238.5	4483.4	4708.8	4855.1	4865.6	4788.1	4728.2
15°	3271.4	3301.3	3415.8	3641.3	3974.2	4367.1	4744.1	5020.7	5114.0	5047.1	4974.9
17.5°	3003.6	3030.0	3116.3	3297.8	3644.8	4134.6	4731.7	5196.8	5410.0	5357.1	5270.8
20°	2922.6	2945.5	2986.0	3112.8	3401.7	3893.2	4650.7	5362.4	5728.8	5698.9	5602.0
22.5°	3008.9	3030.0	3042.3	3098.7	3280.2	3734.7	4548.5	5531.5	6098.8	6102.3	5984.3
25°	3207.9	3229.1	3215.0	3250.2	3329.5	3685.3	4509.8	5730.6	6563.8	6602.6	6468.7
27.5°	3535.6	3537.4	3503.9	3502.1	3514.5	3759.3	4550.3	5943.8	7150.5	7222.7	7057.1
30°	4192.7	4166.3	4037.7	3898.5	3835.1	3981.3	4663.0	6195.7	7842.8	7971.4	7763.5
32.5°	5205.6	5166.9	4930.8	4597.9	4263.2	4338.9	4865.6	6482.8	8596.8	8829.3	8575.6
35°	6304.9	6294.3	6047.7	5552.7	4967.8	4848.0	5195.1	6859.8	9419.5	9789.4	9488.2
37.5°	7326.6	7321.4	7180.4	6597.3	5885.6	5558.0	5723.5	7353.1	10300.3	10835.8	10480.0
40°	8260.3	8276.2	8135.2	7613.8	6896.8	6468.7	6442.3	7962.6	11279.7	11975.6	11552.8
42.5°	9067.1	9084.7	8942.1	8556.3	7895.6	7476.4	7324.9	8709.5	12236.3	13199.9	12699.6
45°	9615.0	9724.2	9703.1	9394.8	8920.9	8485.8	8385.4	9646.7	13326.8	14498.2	13911.6
47.5°	9770.0	9870.4	10029.0	10071.3	9782.4	9354.3	9474.1	10775.9	14429.5	15798.3	15130.7
50°	9387.7	9481.1	9810.5	10249.2	10450.0	10317.9	10532.8	11986.2	15558.8	17094.9	16326.8
52.5°	8633.8	8728.9	9144.6	9838.7	10657.9	11073.6	11595.1	13178.8	16652.7	18322.8	17459.6
55°	7543.3	7643.7	8177.5	8963.2	10261.5	11385.4	12481.2	14369.6	17655.1	19427.3	18481.3
57.5°	6060.0	6134.0	6688.9	7788.2	9264.4	11075.4	13134.7	15669.7	18599.3	20512.5	19494.2
60°	3949.6	4014.8	4659.5	5885.6	7612.0	10039.6	13265.1	17119.6	19853.6	21923.5	20859.5
62.5°	2626.6	2670.6	3052.9	3953.1	5360.7	8050.7	12502.3	18277.0	21692.8	24379.3	23200.7
65°	1802.2	1846.2	2228.5	2855.6	3463.4	5325.4	10309.1	18123.7	23359.3	26329.4	24935.9
67.5°	1286.0	1323.0	1647.1	2239.0	2506.8	3093.4	6988.4	16164.8	23119.7	26403.4	25029.3
70°	921.3	942.5	1210.2	1744.0	1992.4	1858.5	3886.2	12363.1	20242.9	24381.0	23123.2
72.5°	644.8	651.8	840.3	1328.3	1604.8	1356.5	1849.7	8242.7	15310.4	19136.6	17926.4
75°	436.9	445.7	565.5	974.2	1287.8	1035.8	979.5	4419.9	8987.9	10592.7	9495.2
77.5°	267.8	271.3	364.7	665.9	963.6	789.2	630.7	1872.6	3477.5	3414.0	2910.2
80°	151.5	151.5	232.5	414.0	657.1	509.1	442.2	796.3	1101.0	967.1	852.6
82.5°	84.6	86.3	169.1	257.2	435.1	301.2	243.1	368.2	475.6	421.0	366.4
85°	35.2	38.8	103.9	121.6	207.9	149.7	98.7	155.0	176.2	156.8	114.5
87.5°	3.5	5.3	31.7	22.9	24.7	29.9	14.1	29.9	24.7	24.7	17.6
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°	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5	4053.5
2.5°	4079.9	4053.5	3986.6	3909.1	3806.9	3757.6	3690.6	3644.8	3606.1	3609.6	3574.4
5°	4159.2	4092.3	3942.5	3755.8	3523.3	3357.7	3181.5	3060.0	2961.3	2940.2	2892.6
7.5°	4268.4	4162.7	3900.3	3563.8	3170.9	2873.2	2607.2	2436.3	2314.8	2276.0	2237.3
10°	4409.4	4256.1	3845.6	3322.4	2757.0	2378.2	2092.8	1958.9	1876.1	1848.0	1826.8
12.5°	4573.2	4363.6	3773.4	3028.2	2330.6	1966.0	1784.5	1717.6	1691.2	1682.4	1677.1
15°	4779.3	4497.5	3664.2	2679.4	1969.5	1714.1	1636.6	1627.7	1631.3	1627.7	1626.0
17.5°	5024.2	4643.7	3486.3	2320.1	1726.4	1585.5	1557.3	1564.3	1573.1	1571.4	1567.9
20°	5291.9	4788.1	3259.0	2001.2	1560.8	1493.9	1478.0	1485.1	1492.1	1488.6	1486.8
22.5°	5596.7	4943.1	3007.1	1752.8	1449.8	1409.3	1391.7	1393.5	1393.5	1386.4	1382.9
25°	5961.4	5114.0	2742.9	1576.7	1365.3	1333.6	1312.4	1305.4	1294.8	1273.7	1270.1
27.5°	6396.5	5295.5	2489.2	1453.3	1298.3	1268.4	1243.7	1226.1	1199.7	1164.4	1160.9
30°	6886.2	5515.7	2274.3	1375.8	1245.5	1215.5	1187.3	1160.9	1122.2	1078.1	1074.6
32.5°	7462.3	5751.7	2117.5	1324.7	1197.9	1166.2	1132.7	1101.0	1058.7	1014.7	1016.5
35°	8149.3	6037.1	2025.9	1289.5	1160.9	1118.6	1081.6	1046.4	1014.7	975.9	972.4
37.5°	8894.5	6340.1	1997.7	1271.9	1136.3	1071.1	1028.8	1004.1	1000.6	977.7	975.9
40°	9710.1	6699.5	2018.8	1261.3	1109.8	1025.3	979.5	974.2	983.0	942.5	944.2
42.5°	10573.3	7125.8	2054.1	1249.0	1072.8	979.5	935.4	935.4	928.4	872.0	872.0
45°	11507.0	7617.3	2089.3	1219.1	1028.8	933.7	900.2	887.9	857.9	803.3	801.5
47.5°	12447.7	8117.6	2115.7	1164.4	975.9	894.9	865.0	836.8	792.7	743.4	741.6
50°	13340.9	8566.8	2087.5	1083.4	916.0	857.9	826.2	787.5	739.9	706.4	701.1
52.5°	14138.9	8956.1	1967.7	988.3	852.6	819.2	791.0	750.5	711.7	676.5	672.9
55°	14833.0	9271.5	1756.3	898.4	796.3	785.7	757.5	706.4	653.6	623.6	620.1
57.5°	15498.9	9511.1	1492.1	824.4	745.2	748.7	706.4	660.6	611.3	579.6	576.1
60°	16385.0	9831.7	1224.3	755.7	690.6	701.1	655.3	621.9	560.2	519.7	514.4
62.5°	17801.3	10330.2	972.4	671.2	627.1	630.7	611.3	570.8	496.8	449.2	445.7
65°	18925.2	10147.0	766.3	579.6	554.9	560.2	560.2	516.2	436.9	382.3	377.0
67.5°	18798.4	8688.4	611.3	489.7	486.2	489.7	502.1	465.1	387.6	343.5	336.5
70°	17316.9	6910.9	489.7	406.9	422.8	414.0	449.2	424.6	348.8	304.8	299.5
72.5°	14130.1	4978.4	373.5	336.5	324.1	338.2	405.2	382.3	290.7	241.3	236.1
75°	8256.8	2656.5	278.3	266.0	234.3	281.9	359.4	325.9	222.0	177.9	172.6
77.5°	2688.3	926.6	204.3	195.5	174.4	227.3	306.5	274.8	181.4	140.9	135.6
80°	720.5	280.1	139.2	128.6	112.7	169.1	243.1	218.4	130.4	91.6	89.8
82.5°	288.9	118.0	81.0	72.2	61.7	116.3	192.0	176.2	96.9	58.1	58.1
85°	93.4	38.8	29.9	22.9	28.2	72.2	114.5	119.8	68.7	29.9	22.9
87.5°	12.3	5.3	5.3	7.0	5.3	12.3	35.2	33.5	19.4	3.5	0.0
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)