

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: P196748

Luminaire Tested: **NAV-AF-02-D-UNV-T2-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196748
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)
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-T2-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12650 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - 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

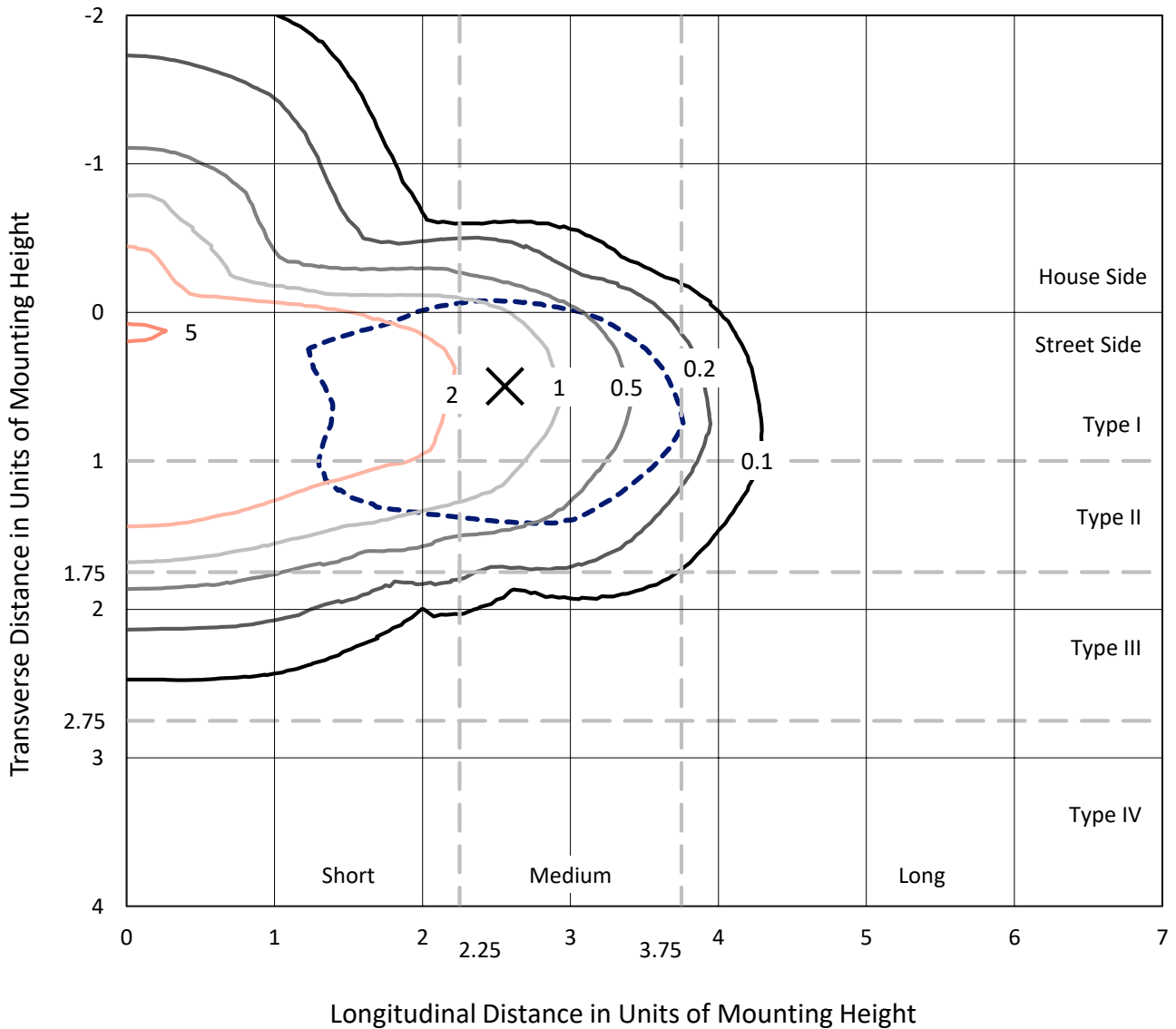


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Iso-Footcandle Lines of Horizontal Illumination

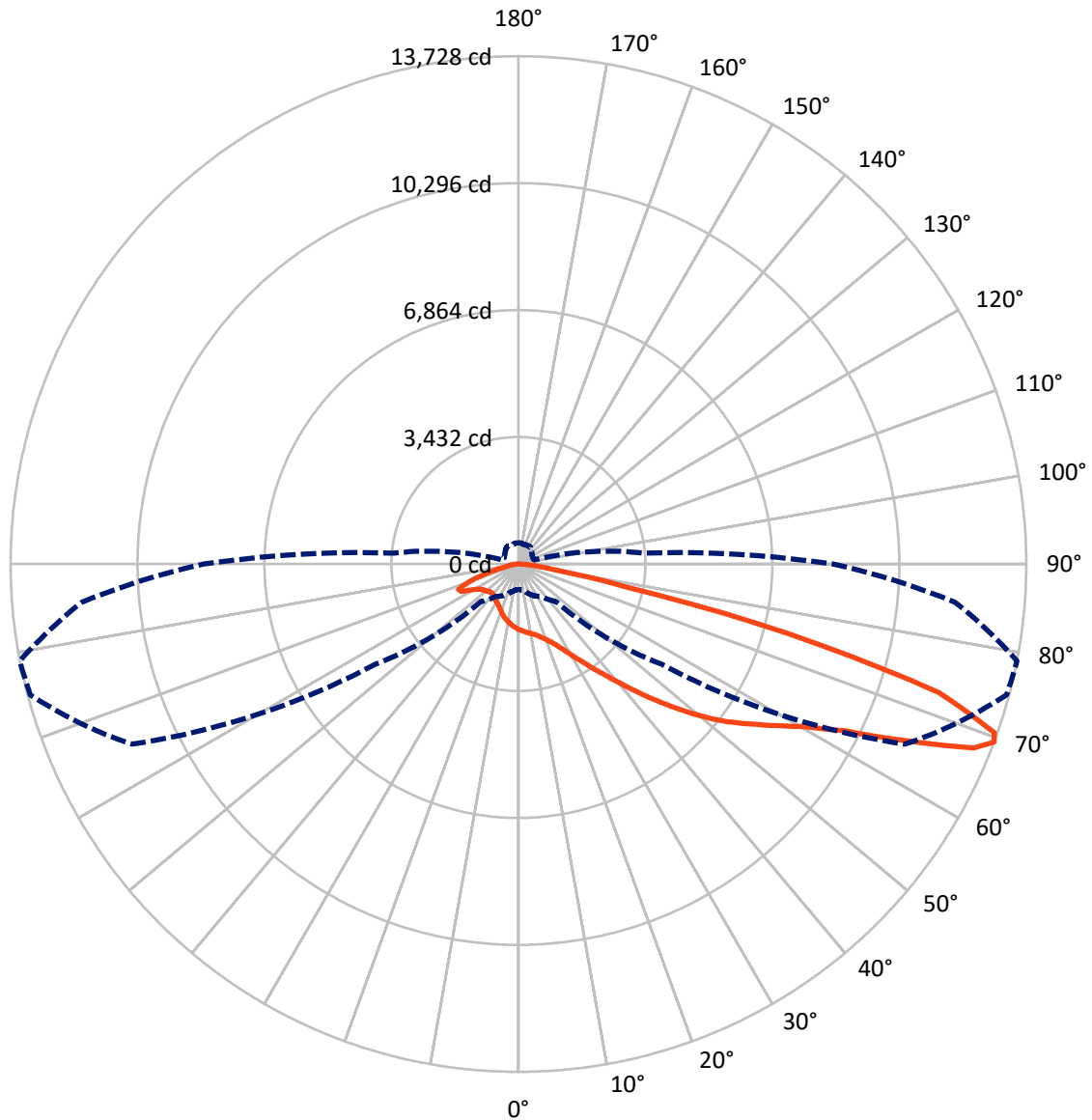
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.4 fc
 Type II - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2379.7	0.0	2379.7
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	10270.3	0.0	10270.3
	% Fixture	81.2	0.0	81.2
Total	Lumens	12650.0	0.0	12650.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.6	1.3
10°-20°	471.8	3.7
20°-30°	779.6	6.2
30°-40°	1262.4	10.0
40°-50°	2016.7	15.9
50°-60°	2888.2	22.8
60°-70°	3217.9	25.4
70°-80°	1609.9	12.7
80°-90°	238.9	1.9
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°	12650.0	100.0
0°-180°	12650.0	100.0

Coefficient of Utilization



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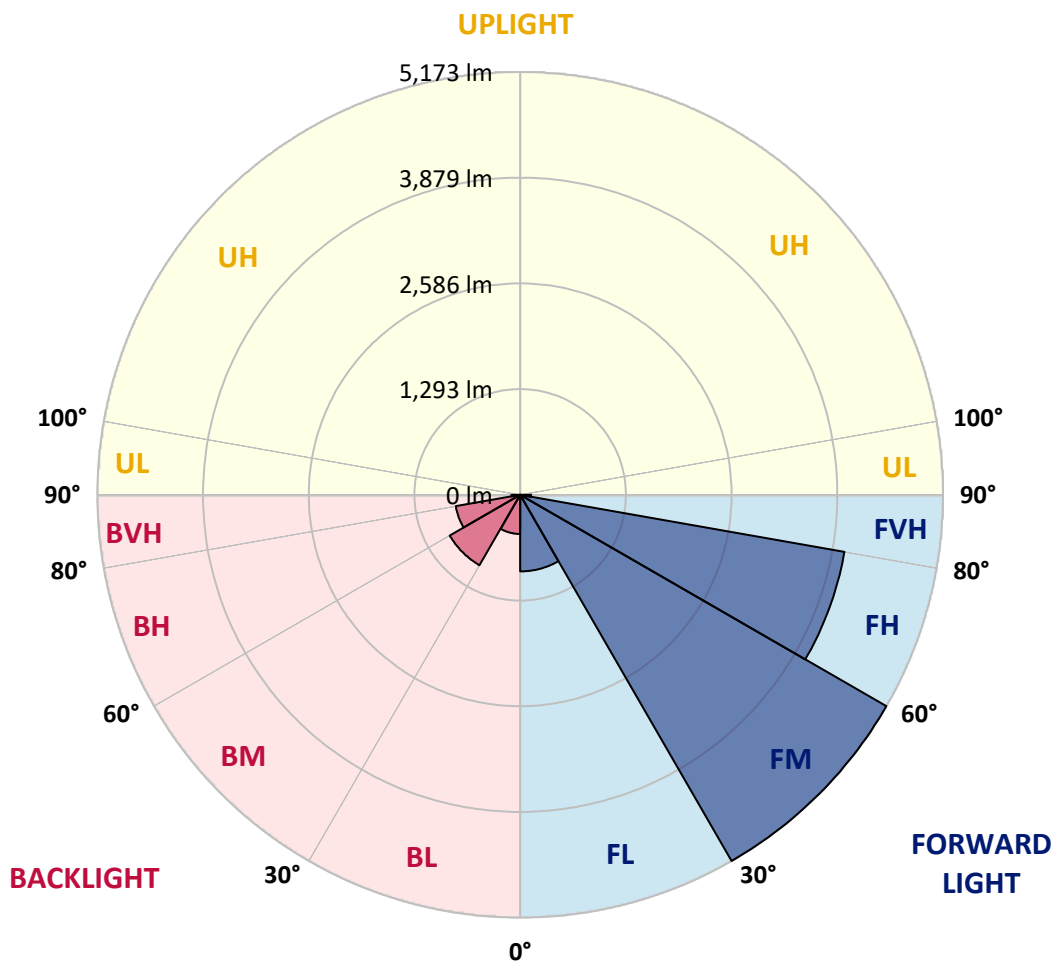
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	936.6	7.4			
FM (30°-60°)	5172.6	40.9			
FH (60°-80°)	4027.6	31.8			G2/5000
FVH (80°-90°)	133.5	1.1			G2/225
BL (0°-30°)	479.4	3.8	B1/500		
BM (30°-60°)	994.7	7.9	B1/1000		
BH (60°-80°)	800.1	6.3	B2/1000		G2/1000
BVH (80°-90°)	105.4	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3
2.5°	1948.9	1944.9	1944.0	1931.6	1925.0	1911.0	1877.8	1843.9	1812.4	1795.9	1778.5
5°	2112.0	2103.8	2099.6	2078.8	2060.7	2029.3	1977.1	1923.3	1867.0	1838.1	1803.4
7.5°	2210.6	2211.3	2211.3	2194.8	2176.6	2138.5	2072.3	1998.7	1915.1	1877.0	1822.3
10°	2218.8	2219.6	2232.0	2236.2	2240.4	2220.4	2159.2	2066.5	1958.9	1909.3	1838.1
12.5°	2136.9	2142.7	2163.4	2193.2	2235.3	2256.9	2230.4	2139.3	2015.2	1954.7	1867.9
15°	2026.8	2032.5	2059.1	2104.6	2172.4	2244.4	2281.7	2222.9	2088.8	2017.7	1911.7
17.5°	1973.0	1979.7	1997.8	2034.2	2100.4	2197.3	2308.9	2312.4	2175.8	2093.9	1963.9
20°	1947.3	1952.4	1975.5	2005.2	2055.7	2148.5	2311.5	2406.7	2279.2	2184.0	2027.7
22.5°	2006.1	2007.7	2019.3	2035.9	2069.8	2141.1	2309.8	2504.3	2408.3	2297.4	2109.6
25°	2178.2	2167.4	2159.2	2138.5	2146.8	2197.3	2336.3	2608.6	2573.8	2446.5	2218.8
27.5°	2381.9	2380.2	2358.7	2310.7	2280.0	2312.4	2411.6	2725.3	2776.6	2635.9	2361.9
30°	2608.6	2609.4	2587.0	2528.4	2466.2	2469.6	2531.6	2860.2	3019.1	2864.3	2538.2
32.5°	2846.1	2861.1	2819.7	2760.9	2685.6	2661.5	2703.7	3023.2	3299.6	3134.1	2742.6
35°	3130.0	3132.5	3086.9	3001.0	2925.5	2887.5	2926.4	3226.9	3623.2	3451.1	2991.7
37.5°	3424.6	3426.3	3379.1	3269.0	3173.9	3149.0	3192.0	3474.2	3965.9	3811.9	3284.8
40°	3665.4	3682.8	3645.6	3542.0	3446.1	3431.2	3493.3	3770.5	4403.7	4238.9	3633.2
42.5°	3938.6	3958.4	3913.6	3806.1	3730.0	3724.9	3821.9	4108.1	4839.0	4733.0	4028.0
45°	4246.4	4274.6	4212.5	4091.6	4027.1	4136.3	4142.1	4482.3	5340.5	5285.9	4472.3
47.5°	4582.5	4605.6	4555.1	4425.2	4354.8	4512.9	4455.8	4886.9	5882.6	5878.4	4953.2
50°	4841.5	4867.1	4872.1	4814.9	4741.3	4761.2	4800.1	5312.4	6423.1	6487.6	5450.6
52.5°	4794.3	4819.1	4930.9	5080.7	5199.0	5147.6	5194.8	5764.2	6945.2	7081.7	5923.2
55°	4413.6	4426.8	4636.2	4992.0	5496.1	5741.0	5744.5	6255.8	7441.7	7633.0	6371.7
57.5°	3727.5	3729.1	4001.4	4526.2	5323.1	6125.8	6611.8	6873.2	7959.9	8242.1	6927.8
60°	2637.5	2644.2	2961.2	3647.2	4703.3	6079.5	7544.4	7978.0	8559.8	8926.5	7644.6
62.5°	1565.8	1580.8	1819.9	2370.3	3493.3	5483.7	8095.6	9943.5	9443.8	9930.3	8791.5
65°	1018.8	1031.2	1174.3	1450.8	2064.0	3989.8	7914.3	11847.1	11116.4	11509.4	10440.2
67.5°	784.6	794.6	907.1	1074.2	1266.2	2156.7	6327.9	12246.0	13152.2	13274.7	11831.3
69°	689.4	697.6	780.4	940.9	1066.0	1427.6	4715.6	11521.8	13661.2	13728.2	11848.7
70°	638.9	645.5	723.3	862.4	979.1	1139.6	3609.2	10680.9	13475.0	13646.3	11506.9
72.5°	526.3	532.1	587.6	694.4	800.4	811.9	1598.9	7799.3	11346.3	11894.3	9737.5
75°	439.4	442.7	479.2	557.0	648.0	646.4	816.8	4417.7	6923.6	7576.7	6012.5
77.5°	366.7	369.1	393.2	441.1	511.5	508.9	575.1	1906.8	3057.2	2949.6	2069.8
80°	323.6	325.3	337.6	350.0	394.8	392.2	426.2	875.6	1243.9	1149.5	783.0
82.5°	245.9	249.1	312.1	317.8	306.3	295.4	297.0	509.8	637.2	580.1	420.4
85°	139.1	139.9	200.3	234.3	266.5	200.3	192.9	263.2	314.4	275.6	183.8
87.5°	62.1	64.6	96.0	110.9	144.0	117.6	110.1	111.8	135.7	112.5	72.8
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°	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3	1775.3
2.5°	1762.0	1747.9	1714.9	1680.9	1647.0	1625.4	1603.1	1582.4	1574.1	1573.3	1557.5
5°	1769.5	1736.3	1661.0	1578.2	1499.6	1438.4	1387.0	1353.9	1321.7	1315.9	1301.9
7.5°	1771.8	1718.1	1595.6	1463.2	1343.3	1258.7	1207.5	1185.1	1169.4	1165.2	1160.4
10°	1771.1	1694.9	1522.7	1341.4	1205.0	1141.2	1122.2	1127.2	1133.8	1137.2	1137.2
12.5°	1784.3	1684.1	1450.0	1227.3	1115.6	1085.0	1099.9	1125.6	1145.4	1153.7	1155.3
15°	1808.4	1677.5	1369.7	1128.0	1052.7	1060.2	1096.5	1133.8	1162.0	1174.3	1177.7
17.5°	1838.1	1668.4	1277.0	1046.0	1016.3	1041.9	1089.1	1136.3	1170.2	1185.9	1188.4
20°	1871.2	1655.2	1181.0	984.9	984.0	1016.3	1063.4	1116.4	1152.8	1170.2	1169.4
22.5°	1915.9	1642.8	1091.6	940.1	948.5	978.2	1017.1	1065.2	1099.0	1114.8	1111.5
25°	1975.5	1631.2	1011.3	900.4	907.8	927.7	955.0	991.4	1015.4	1023.8	1018.0
27.5°	2055.7	1622.1	948.5	864.0	863.1	872.3	888.9	908.7	920.3	917.8	908.7
30°	2154.3	1613.0	902.1	831.8	820.1	819.3	826.8	838.3	845.7	830.9	823.5
32.5°	2264.3	1597.3	860.8	803.6	783.0	775.4	778.8	794.6	825.1	810.2	804.4
35°	2394.2	1579.1	819.3	773.0	757.2	743.2	745.7	779.6	872.3	861.5	855.7
37.5°	2550.6	1562.5	781.2	739.9	739.0	721.6	720.0	760.6	884.7	861.5	856.6
40°	2738.5	1559.2	747.4	703.4	716.7	710.0	704.2	729.1	816.0	768.8	759.8
42.5°	2965.3	1574.1	722.5	668.6	691.1	706.8	696.0	701.8	737.4	695.2	687.8
45°	3230.1	1614.7	704.2	638.1	663.8	704.2	691.8	686.9	692.7	669.5	664.6
47.5°	3538.8	1686.6	691.8	612.4	638.1	697.6	690.2	680.2	677.9	664.6	661.2
50°	3869.0	1783.4	683.6	589.2	614.9	686.0	689.4	675.3	671.2	665.4	663.8
52.5°	4196.7	1888.5	673.7	569.4	595.9	672.1	690.2	670.3	664.6	661.2	659.6
55°	4522.8	1997.8	655.4	552.0	581.8	655.4	689.4	663.8	657.0	657.0	657.0
57.5°	4945.7	2164.2	631.4	538.0	563.6	633.9	678.6	656.3	647.2	648.0	648.9
60°	5556.5	2443.0	605.0	522.3	539.6	609.1	662.1	643.0	632.3	635.6	636.4
62.5°	6577.0	2930.6	568.5	499.9	514.7	582.7	640.6	624.9	614.9	620.7	621.5
65°	7937.4	3520.6	520.5	471.8	489.2	552.9	613.3	603.3	592.5	606.6	605.9
67.5°	8767.6	3693.6	470.1	442.0	464.3	521.3	579.3	575.1	567.7	592.5	590.9
69°	8495.4	3380.7	441.1	423.0	446.9	499.9	557.8	556.1	550.3	574.3	572.7
70°	8072.4	3088.6	423.0	410.5	437.8	486.6	543.8	543.8	538.0	558.7	554.5
72.5°	6484.2	2290.8	380.7	379.0	406.3	450.2	505.7	509.8	506.5	513.9	509.8
75°	3806.9	1380.4	339.4	344.2	368.3	411.4	463.5	466.7	463.5	462.6	463.5
77.5°	1320.1	619.1	299.6	307.0	327.8	371.6	417.2	423.7	418.8	413.0	414.6
80°	516.5	360.0	256.5	267.3	284.7	326.9	370.7	374.9	367.4	366.7	360.0
82.5°	310.3	219.3	199.4	216.9	238.3	283.8	320.2	318.6	312.8	346.8	303.7
85°	134.9	121.6	145.7	163.1	173.8	212.7	270.6	263.2	249.1	219.3	214.3
87.5°	54.6	63.0	80.3	96.8	104.3	137.3	185.4	178.7	181.3	148.9	148.1
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)