

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: P196406

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196406
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
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-5MQ-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12546.3 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

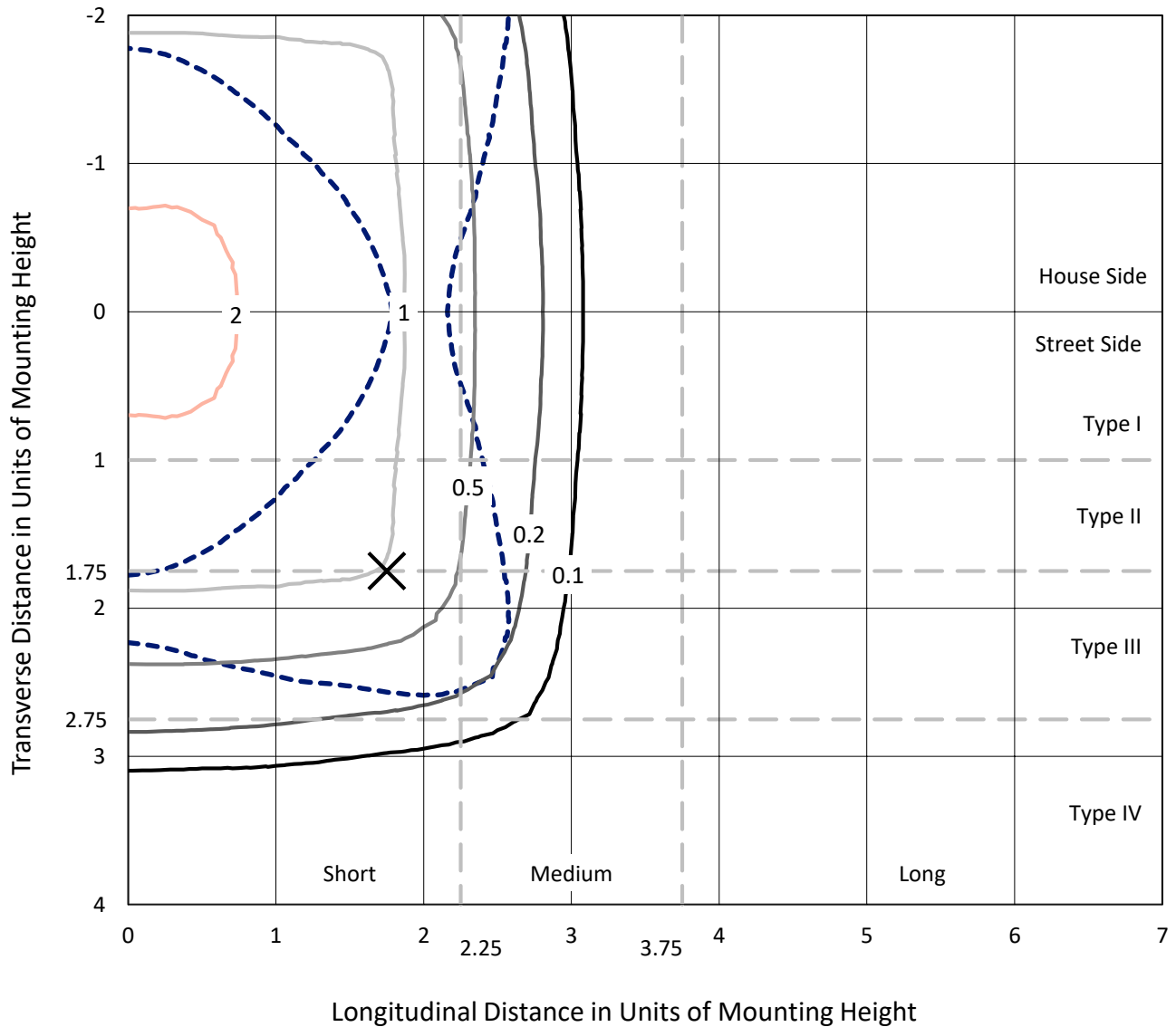
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

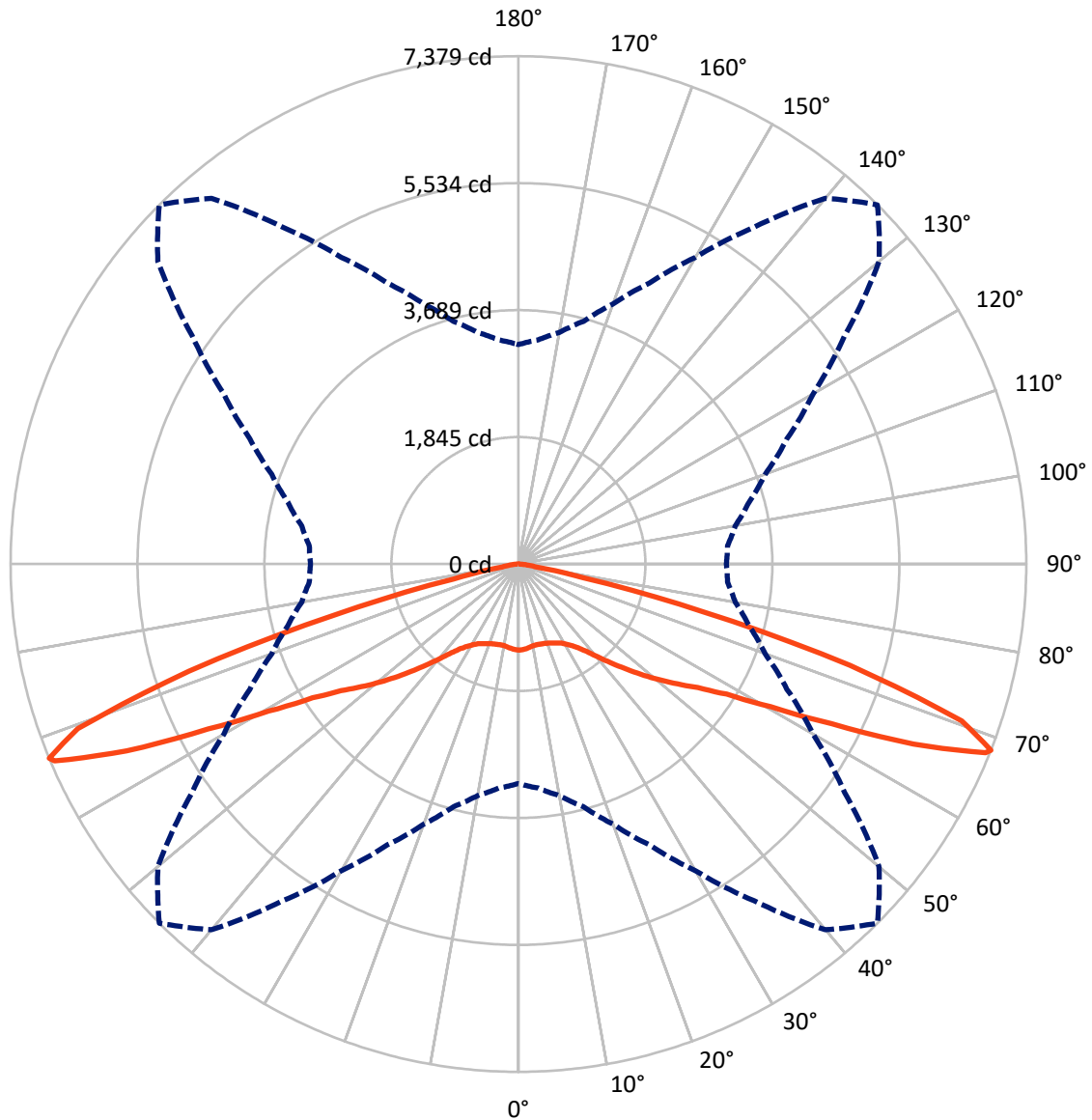
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.1 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6273.1	0.0	6273.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6273.1	0.0	6273.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	12546.3	0.0	12546.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.1	0.9
10°-20°	339.6	2.7
20°-30°	577.4	4.6
30°-40°	944.9	7.5
40°-50°	1688.7	13.5
50°-60°	2852.0	22.7
60°-70°	4422.4	35.2
70°-80°	1520.5	12.1
80°-90°	83.6	0.7
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°	12546.3	100.0
0°-180°	12546.3	100.0



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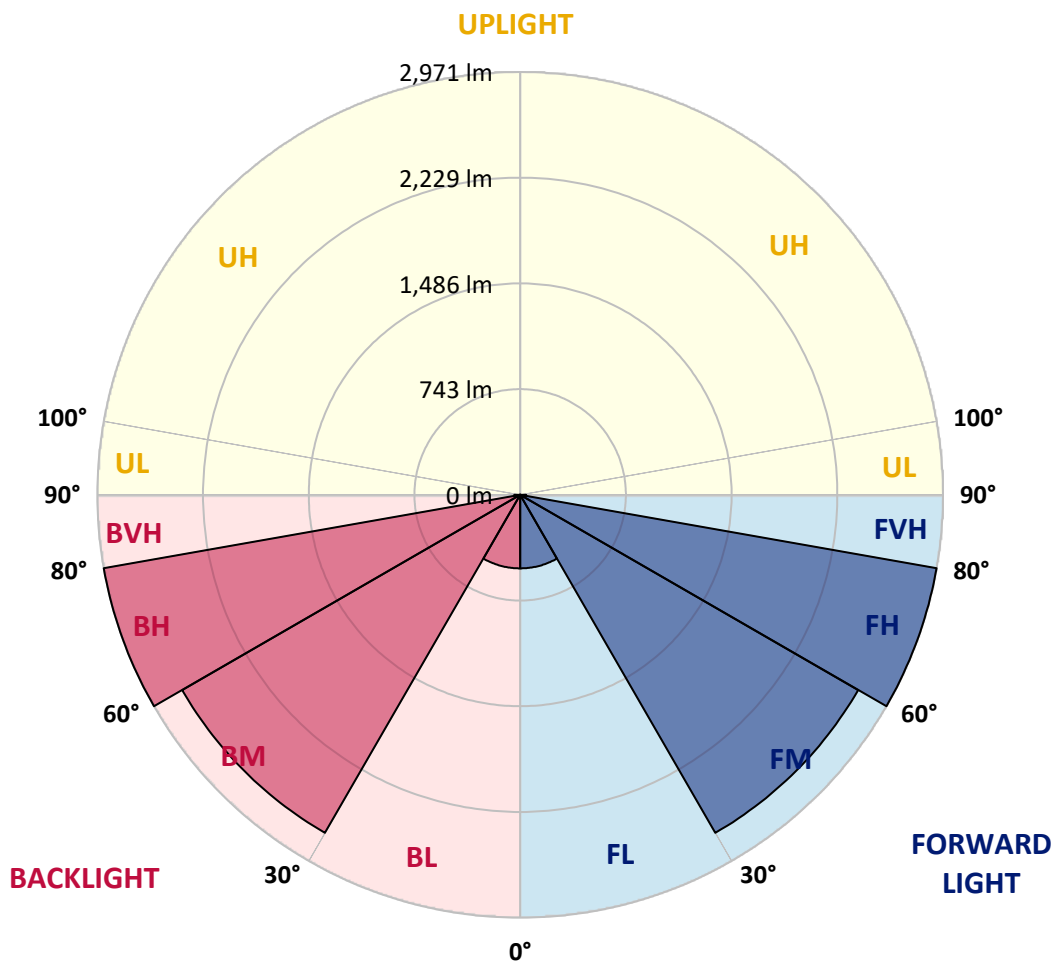
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	517.1	4.1			
FM	(30°-60°)	2742.8	21.9			
FH	(60°-80°)	2971.4	23.7			G2/5000
FVH	(80°-90°)	41.8	0.3			G1/100
BL	(0°-30°)	517.1	4.1	B2/1000		
BM	(30°-60°)	2742.8	21.9	B3/5000		
BH	(60°-80°)	2971.4	23.7	B4/5000		G2/5000
BVH	(80°-90°)	41.8	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6
2.5°	1256.9	1256.9	1258.4	1257.7	1255.4	1253.1	1250.8	1248.5	1246.8	1245.3	1243.8
5°	1243.8	1243.8	1246.1	1244.6	1243.1	1240.7	1239.2	1237.0	1235.4	1233.9	1234.6
7.5°	1227.0	1228.5	1230.0	1229.2	1226.2	1225.5	1223.0	1222.3	1220.8	1218.5	1219.3
10°	1212.3	1213.1	1214.6	1213.9	1213.1	1210.8	1210.0	1209.3	1208.5	1205.4	1204.7
12.5°	1197.7	1199.2	1200.9	1201.7	1200.9	1201.7	1202.4	1203.2	1202.4	1200.9	1200.9
15°	1186.2	1187.7	1190.1	1192.3	1193.1	1197.7	1200.9	1203.9	1206.2	1207.0	1204.7
17.5°	1180.1	1182.4	1185.5	1190.1	1193.8	1199.2	1204.7	1209.3	1213.1	1213.9	1211.5
20°	1179.4	1181.6	1186.2	1191.6	1198.5	1205.4	1213.9	1220.8	1224.7	1227.0	1224.7
22.5°	1184.7	1187.7	1193.8	1200.9	1209.3	1218.5	1229.2	1237.0	1244.6	1247.6	1245.3
25°	1200.1	1203.2	1210.0	1218.5	1227.7	1239.2	1250.0	1260.0	1267.6	1271.4	1268.4
27.5°	1232.3	1233.1	1240.7	1250.0	1260.8	1270.6	1284.6	1289.1	1295.3	1299.2	1295.3
30°	1277.7	1279.2	1286.1	1300.7	1310.7	1323.7	1331.5	1336.0	1342.9	1346.8	1342.1
32.5°	1346.8	1348.4	1354.5	1368.3	1377.5	1387.5	1396.8	1399.8	1406.7	1411.3	1405.9
35°	1444.4	1447.4	1452.8	1462.0	1469.7	1477.4	1484.3	1482.0	1486.6	1492.8	1487.3
37.5°	1578.0	1577.2	1578.8	1585.7	1593.4	1598.0	1608.8	1603.4	1608.0	1613.4	1610.3
40°	1734.1	1734.1	1733.3	1745.5	1748.5	1753.2	1764.7	1757.9	1764.0	1770.1	1764.7
42.5°	1911.5	1914.5	1918.4	1928.4	1936.8	1938.4	1943.7	1940.7	1948.3	1953.8	1948.3
45°	2115.8	2120.4	2125.1	2148.1	2152.0	2155.0	2158.9	2148.9	2157.4	2161.9	2160.4
47.5°	2327.9	2336.3	2346.4	2370.2	2385.4	2392.4	2395.5	2383.9	2384.7	2391.6	2392.4
50°	2567.6	2576.8	2586.8	2613.7	2628.2	2640.6	2644.4	2631.4	2632.9	2638.3	2639.8
52.5°	2788.9	2799.7	2821.1	2857.2	2878.0	2899.5	2901.1	2884.9	2891.8	2895.6	2892.5
55°	2997.1	3010.8	3039.3	3087.6	3125.4	3167.7	3186.8	3169.2	3169.2	3166.2	3164.5
57.5°	3239.9	3255.2	3284.5	3340.5	3392.7	3453.3	3505.7	3523.3	3555.7	3566.3	3549.4
60°	3605.5	3621.6	3651.7	3725.4	3791.4	3879.8	3965.9	4035.8	4149.4	4211.0	4155.5
62.5°	3939.8	3964.4	4035.0	4164.1	4307.0	4470.6	4660.4	4795.6	5002.2	5105.2	4966.2
65°	3863.6	3913.5	4051.9	4254.8	4549.8	4904.6	5291.1	5662.3	6089.3	6308.3	6025.6
67.5°	3375.0	3417.3	3566.3	3802.2	4170.2	4659.6	5260.4	6028.7	6909.9	7320.2	6820.0
68°	3188.4	3267.5	3415.8	3650.2	4021.2	4502.1	5143.6	5973.3	6935.2	7378.5	6838.4
70°	2444.6	2473.1	2615.2	2825.8	3226.0	3697.8	4345.3	5291.1	6378.2	6834.6	6279.1
72.5°	1161.7	1178.6	1270.6	1478.2	1732.5	2116.6	2688.3	3580.2	4559.7	5034.5	4480.6
75°	425.7	429.5	451.0	500.2	595.5	739.9	1014.2	1568.9	2322.6	2769.6	2331.7
77.5°	229.7	230.5	239.0	251.2	268.1	287.4	328.9	441.0	711.4	968.0	751.3
80°	144.4	143.6	152.1	162.1	173.6	182.9	186.8	199.7	225.1	263.6	242.0
82.5°	73.8	80.7	99.9	110.7	127.5	130.6	126.7	125.9	133.8	144.4	149.0
85°	40.8	36.0	53.0	70.7	76.8	79.1	79.9	75.3	73.8	72.2	76.1
87.5°	20.8	19.2	23.1	35.3	37.7	30.7	31.4	26.9	18.5	18.5	19.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6	1251.6
2.5°	1242.3	1243.1	1241.5	1241.5	1241.5	1242.3	1241.5	1240.7
5°	1232.3	1233.9	1233.9	1234.6	1235.4	1235.4	1235.4	1235.4
7.5°	1217.7	1218.5	1220.0	1220.0	1220.0	1220.0	1220.0	1220.0
10°	1203.9	1202.4	1201.7	1200.1	1200.1	1197.7	1198.5	1199.2
12.5°	1196.9	1193.8	1192.3	1190.1	1188.5	1186.2	1186.2	1187.0
15°	1200.1	1195.4	1190.8	1189.3	1187.7	1186.2	1184.7	1185.5
17.5°	1206.2	1200.9	1195.4	1192.3	1189.3	1187.0	1186.2	1187.0
20°	1219.3	1211.5	1203.2	1197.7	1191.6	1190.1	1187.7	1190.1
22.5°	1237.0	1227.7	1216.9	1207.0	1200.1	1196.9	1193.8	1196.2
25°	1258.4	1248.5	1237.7	1226.2	1218.5	1216.2	1212.3	1212.3
27.5°	1288.3	1280.0	1270.6	1260.0	1252.3	1250.0	1243.8	1243.8
30°	1336.0	1327.6	1319.1	1309.9	1302.3	1299.9	1292.2	1292.2
32.5°	1399.1	1389.8	1384.5	1376.7	1370.6	1366.8	1357.5	1356.8
35°	1483.5	1475.1	1474.4	1469.0	1462.8	1463.5	1454.4	1452.8
37.5°	1604.9	1598.0	1600.3	1595.7	1590.4	1594.9	1589.6	1589.6
40°	1760.1	1757.9	1760.1	1757.0	1757.9	1758.6	1753.9	1755.5
42.5°	1947.5	1941.4	1955.3	1953.8	1951.5	1957.6	1946.8	1939.2
45°	2163.5	2161.1	2175.1	2177.3	2172.7	2176.6	2157.4	2156.6
47.5°	2397.8	2397.8	2410.0	2408.5	2403.9	2404.7	2381.7	2367.1
50°	2642.1	2640.6	2652.9	2649.7	2643.6	2642.9	2619.1	2604.4
52.5°	2896.4	2896.4	2914.1	2905.6	2891.0	2884.1	2855.0	2835.8
55°	3177.6	3173.8	3179.1	3151.5	3123.0	3102.3	3066.3	3051.6
57.5°	3533.3	3488.7	3450.3	3415.0	3375.0	3350.4	3308.2	3292.8
60°	4038.1	3919.0	3867.6	3796.9	3730.7	3697.8	3641.6	3611.7
62.5°	4737.2	4539.7	4400.0	4243.9	4093.4	3987.4	3902.0	3864.4
65°	5545.5	5115.2	4759.5	4425.3	4141.8	3916.7	3791.4	3752.3
67.5°	5852.7	5063.0	4449.1	3969.7	3625.6	3357.4	3207.6	3176.0
68°	5787.5	4943.1	4305.5	3814.5	3468.8	3198.3	3049.3	3020.9
70°	5105.2	4170.2	3497.2	3008.6	2685.9	2428.5	2323.3	2277.9
72.5°	3480.4	2678.2	2054.4	1643.4	1402.2	1239.2	1142.5	1109.4
75°	1601.8	1082.5	723.0	540.1	458.7	419.4	389.5	381.9
77.5°	467.1	339.6	291.9	270.4	254.2	240.5	230.5	229.7
80°	222.1	208.2	202.0	188.3	173.6	160.6	151.4	152.9
82.5°	149.0	145.2	145.2	131.3	108.2	93.0	76.8	69.2
85°	79.1	82.2	86.9	82.2	71.4	53.0	34.5	37.7
87.5°	26.9	30.7	32.2	31.4	28.4	21.6	16.2	16.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)