

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: P270321

Luminaire Tested: **NAV-AF-02-D-UNV-5MQ-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270321
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-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 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: 11270.4 lumens
Efficiency: N/A
Efficacy: 99.7 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

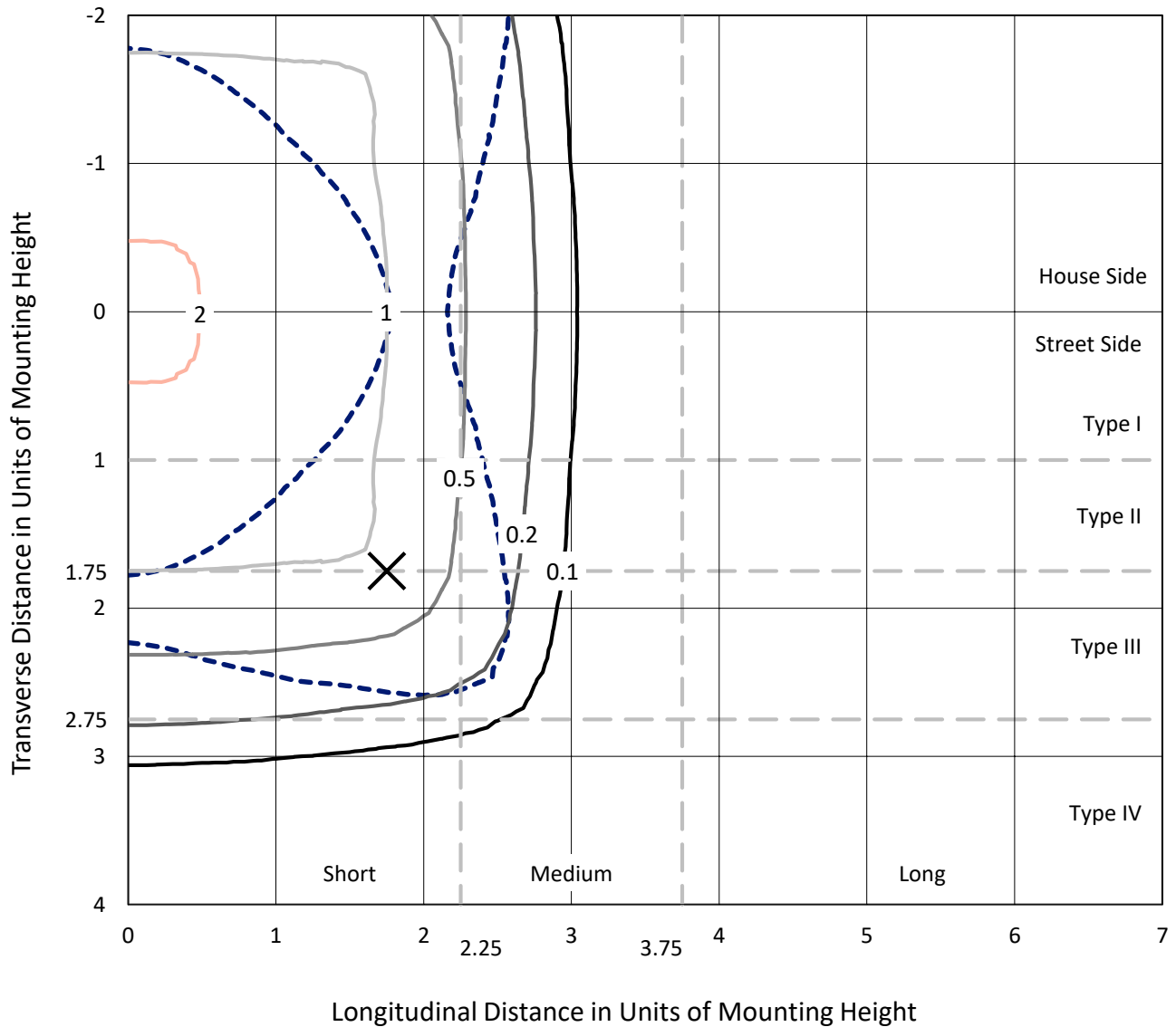


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Iso-Footcandle Lines of Horizontal Illumination

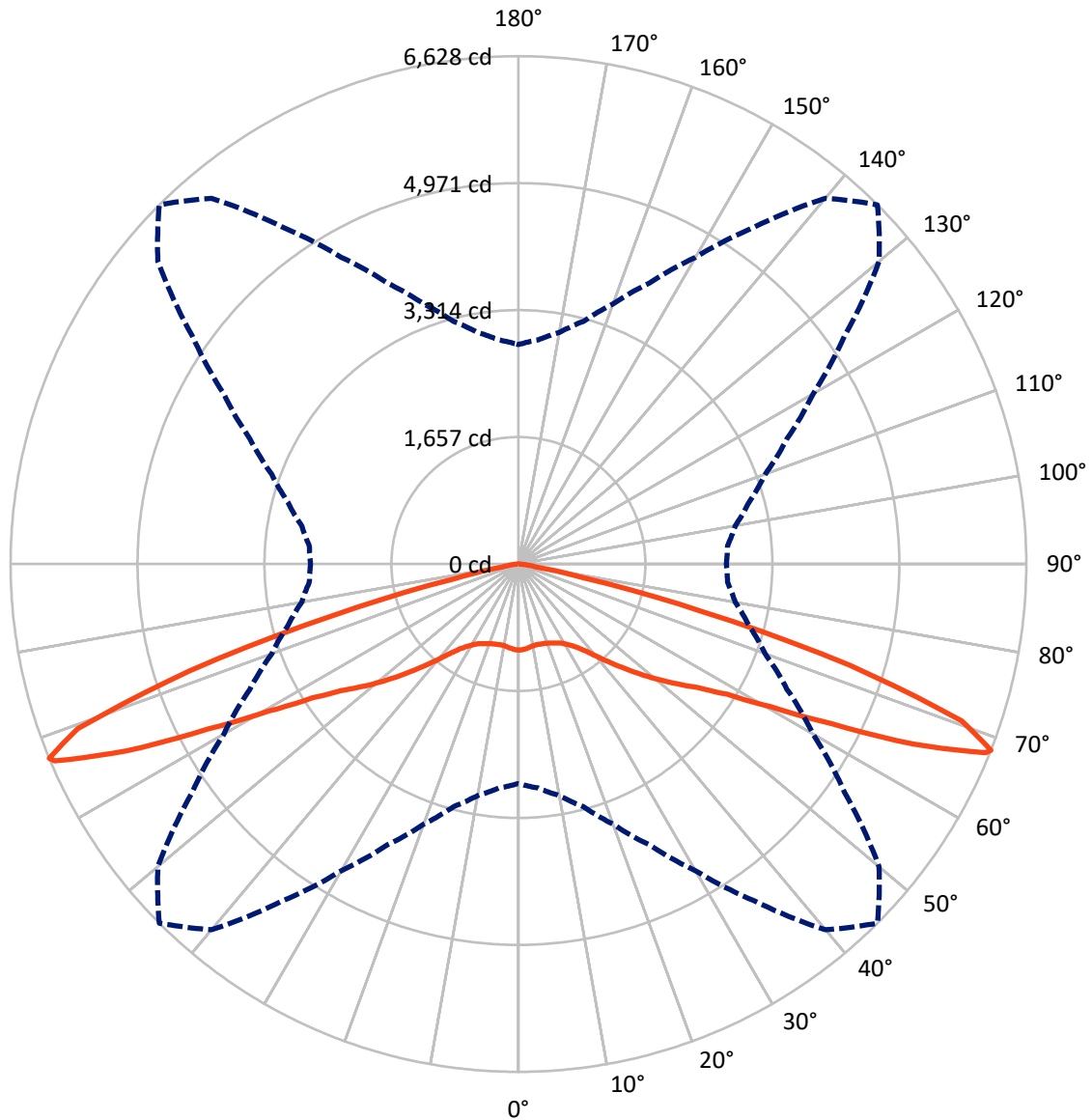
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.8 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	5635.2	0.0	5635.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5635.2	0.0	5635.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	11270.4	0.0	11270.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	0.9
10°-20°	305.1	2.7
20°-30°	518.7	4.6
30°-40°	848.8	7.5
40°-50°	1517.0	13.5
50°-60°	2562.0	22.7
60°-70°	3972.6	35.2
70°-80°	1365.9	12.1
80°-90°	75.1	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°	11270.4	100.0
0°-180°	11270.4	100.0



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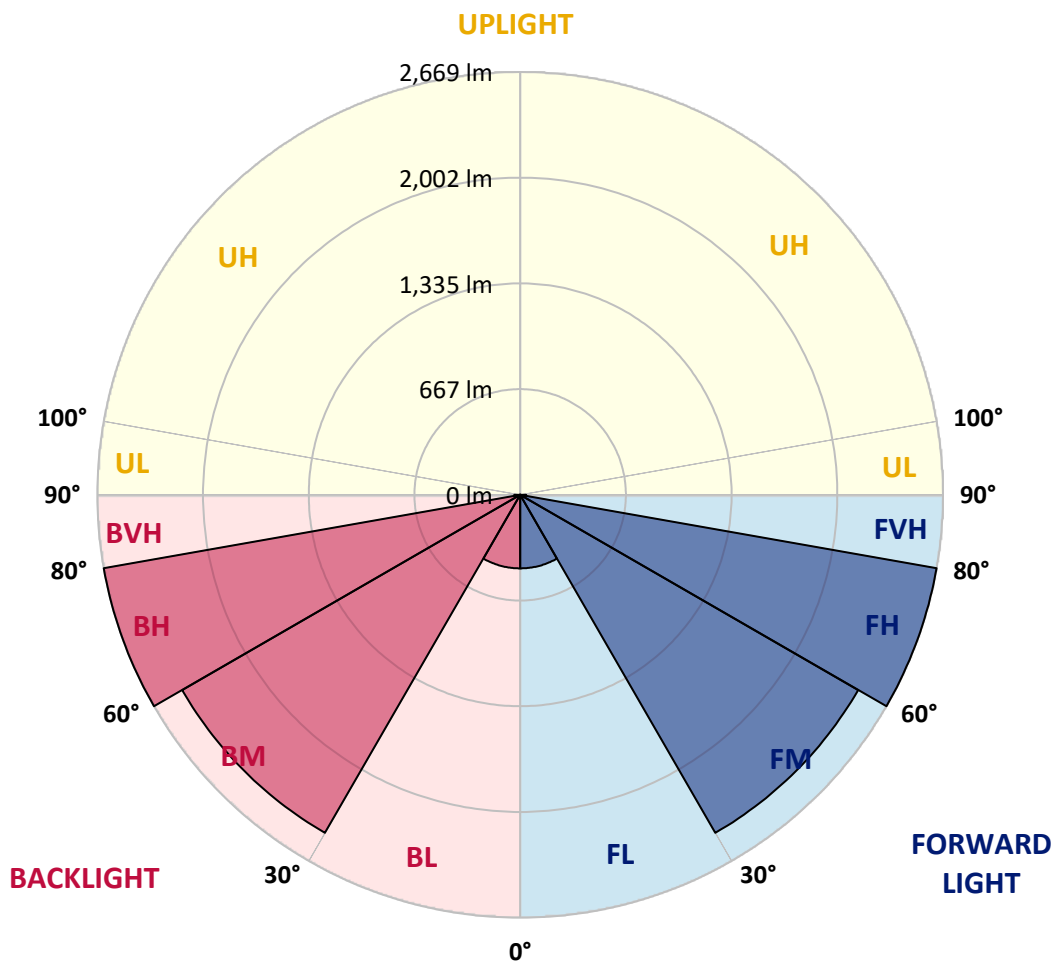
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	464.5	4.1			
FM	(30°-60°)	2463.9	21.9			
FH	(60°-80°)	2669.3	23.7			G2/5000
FVH	(80°-90°)	37.5	0.3			G1/100
BL	(0°-30°)	464.5	4.1	B1/500		
BM	(30°-60°)	2463.9	21.9	B2/2500		
BH	(60°-80°)	2669.3	23.7	B4/5000		G2/5000
BVH	(80°-90°)	37.5	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3
2.5°	1129.1	1129.1	1130.4	1129.8	1127.7	1125.7	1123.6	1121.5	1120.0	1118.7	1117.3
5°	1117.3	1117.3	1119.4	1118.0	1116.7	1114.5	1113.2	1111.2	1109.8	1108.4	1109.0
7.5°	1102.2	1103.6	1104.9	1104.2	1101.5	1100.9	1098.6	1098.0	1096.7	1094.6	1095.3
10°	1089.0	1089.7	1091.1	1090.5	1089.7	1087.7	1086.9	1086.3	1085.6	1082.8	1082.2
12.5°	1075.9	1077.2	1078.8	1079.5	1078.8	1079.5	1080.1	1080.8	1080.1	1078.8	1078.8
15°	1065.6	1066.9	1069.1	1071.0	1071.8	1075.9	1078.8	1081.5	1083.5	1084.3	1082.2
17.5°	1060.1	1062.2	1064.9	1069.1	1072.4	1077.2	1082.2	1086.3	1089.7	1090.5	1088.3
20°	1059.5	1061.4	1065.6	1070.4	1076.6	1082.8	1090.5	1096.7	1100.2	1102.2	1100.2
22.5°	1064.2	1066.9	1072.4	1078.8	1086.3	1094.6	1104.2	1111.2	1118.0	1120.7	1118.7
25°	1078.1	1080.8	1086.9	1094.6	1102.8	1113.2	1122.9	1131.9	1138.7	1142.1	1139.4
27.5°	1107.0	1107.7	1114.5	1122.9	1132.6	1141.4	1154.0	1158.0	1163.6	1167.1	1163.6
30°	1147.8	1149.1	1155.3	1168.4	1177.4	1189.1	1196.1	1200.1	1206.3	1209.8	1205.6
32.5°	1209.8	1211.3	1216.8	1229.2	1237.4	1246.4	1254.8	1257.4	1263.6	1267.8	1262.9
35°	1297.5	1300.2	1305.1	1313.3	1320.2	1327.2	1333.4	1331.3	1335.4	1341.0	1336.0
37.5°	1417.5	1416.8	1418.2	1424.4	1431.4	1435.5	1445.2	1440.3	1444.5	1449.3	1446.5
40°	1557.8	1557.8	1557.0	1568.0	1570.7	1574.9	1585.2	1579.1	1584.6	1590.1	1585.2
42.5°	1717.1	1719.8	1723.3	1732.3	1739.8	1741.3	1746.0	1743.3	1750.2	1755.1	1750.2
45°	1900.6	1904.8	1909.0	1929.6	1933.2	1935.8	1939.4	1930.4	1938.0	1942.0	1940.7
47.5°	2091.2	2098.7	2107.8	2129.2	2142.8	2149.1	2151.9	2141.5	2142.2	2148.4	2149.1
50°	2306.5	2314.8	2323.7	2347.9	2360.9	2372.1	2375.5	2363.8	2365.1	2370.0	2371.3
52.5°	2505.3	2515.0	2534.2	2566.6	2585.3	2604.6	2606.1	2591.5	2597.7	2601.1	2598.3
55°	2692.3	2704.6	2730.2	2773.6	2807.6	2845.6	2862.7	2846.9	2846.9	2844.2	2842.7
57.5°	2910.4	2924.2	2950.5	3000.8	3047.7	3102.1	3149.2	3165.0	3194.1	3203.6	3188.4
60°	3238.8	3253.3	3280.3	3346.5	3405.8	3485.2	3562.6	3625.4	3727.4	3782.8	3732.9
62.5°	3539.1	3561.2	3624.7	3740.6	3869.0	4016.0	4186.5	4307.9	4493.5	4586.0	4461.2
65°	3470.7	3515.5	3639.8	3822.1	4087.1	4405.8	4753.0	5086.5	5470.0	5666.8	5412.8
67.5°	3031.8	3069.8	3203.6	3415.5	3746.1	4185.7	4725.4	5415.6	6207.2	6575.8	6126.4
68°	2864.2	2935.2	3068.4	3279.0	3612.3	4044.3	4620.5	5365.8	6229.9	6628.1	6143.0
70°	2196.0	2221.6	2349.2	2538.4	2897.9	3321.8	3903.4	4753.0	5729.6	6139.6	5640.5
72.5°	1043.6	1058.7	1141.4	1327.9	1556.3	1901.4	2414.9	3216.1	4096.0	4522.5	4024.9
75°	382.4	385.8	405.1	449.3	534.9	664.7	911.1	1409.4	2086.4	2487.9	2094.6
77.5°	206.3	207.1	214.7	225.7	240.8	258.2	295.5	396.2	639.1	869.6	674.9
80°	129.7	129.0	136.6	145.6	155.9	164.3	167.8	179.4	202.2	236.8	217.4
82.5°	66.3	72.5	89.7	99.4	114.5	117.3	113.8	113.1	120.2	129.7	133.8
85°	36.7	32.3	47.6	63.5	69.0	71.1	71.8	67.6	66.3	64.9	68.4
87.5°	18.7	17.2	20.8	31.7	33.9	27.6	28.2	24.2	16.6	16.6	17.2
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°	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3	1124.3
2.5°	1116.0	1116.7	1115.2	1115.2	1115.2	1116.0	1115.2	1114.5
5°	1107.0	1108.4	1108.4	1109.0	1109.8	1109.8	1109.8	1109.8
7.5°	1093.9	1094.6	1095.9	1095.9	1095.9	1095.9	1095.9	1095.9
10°	1081.5	1080.1	1079.5	1078.1	1078.1	1075.9	1076.6	1077.2
12.5°	1075.2	1072.4	1071.0	1069.1	1067.6	1065.6	1065.6	1066.3
15°	1078.1	1073.8	1069.7	1068.4	1066.9	1065.6	1064.2	1064.9
17.5°	1083.5	1078.8	1073.8	1071.0	1068.4	1066.3	1065.6	1066.3
20°	1095.3	1088.3	1080.8	1075.9	1070.4	1069.1	1066.9	1069.1
22.5°	1111.2	1102.8	1093.1	1084.3	1078.1	1075.2	1072.4	1074.6
25°	1130.4	1121.5	1111.8	1101.5	1094.6	1092.5	1089.0	1089.0
27.5°	1157.3	1149.8	1141.4	1131.9	1124.9	1122.9	1117.3	1117.3
30°	1200.1	1192.6	1185.0	1176.7	1169.9	1167.7	1160.8	1160.8
32.5°	1256.8	1248.5	1243.7	1236.7	1231.2	1227.8	1219.4	1218.8
35°	1332.6	1325.1	1324.5	1319.6	1314.0	1314.7	1306.5	1305.1
37.5°	1441.7	1435.5	1437.6	1433.4	1428.7	1432.7	1427.9	1427.9
40°	1581.1	1579.1	1581.1	1578.3	1579.1	1579.8	1575.5	1577.0
42.5°	1749.4	1744.0	1756.5	1755.1	1753.0	1758.5	1748.8	1742.0
45°	1943.5	1941.3	1953.9	1955.9	1951.7	1955.3	1938.0	1937.3
47.5°	2154.0	2154.0	2164.9	2163.6	2159.4	2160.2	2139.5	2126.4
50°	2373.4	2372.1	2383.1	2380.2	2374.8	2374.1	2352.8	2339.5
52.5°	2601.9	2601.9	2617.8	2610.1	2597.0	2590.8	2564.7	2547.4
55°	2854.5	2851.0	2855.8	2831.0	2805.4	2786.8	2754.5	2741.3
57.5°	3174.0	3133.9	3099.4	3067.7	3031.8	3009.7	2971.8	2957.9
60°	3627.4	3520.5	3474.3	3410.8	3351.3	3321.8	3271.3	3244.4
62.5°	4255.5	4078.0	3952.5	3812.3	3677.1	3581.9	3505.2	3471.4
65°	4981.6	4595.0	4275.5	3975.3	3720.6	3518.4	3405.8	3370.7
67.5°	5257.5	4548.1	3996.6	3566.0	3256.9	3016.0	2881.4	2853.0
68°	5198.9	4440.4	3867.7	3426.6	3116.0	2873.0	2739.2	2713.7
70°	4586.0	3746.1	3141.6	2702.6	2412.8	2181.5	2087.0	2046.2
72.5°	3126.5	2405.8	1845.5	1476.3	1259.6	1113.2	1026.3	996.6
75°	1438.9	972.4	649.5	485.2	412.1	376.7	349.9	343.1
77.5°	419.6	305.1	262.2	242.9	228.3	216.0	207.1	206.3
80°	199.5	187.0	181.5	169.2	155.9	144.3	136.0	137.4
82.5°	133.8	130.4	130.4	117.9	97.2	83.5	69.0	62.2
85°	71.1	73.8	78.1	73.8	64.1	47.6	31.0	33.9
87.5°	24.2	27.6	28.9	28.2	25.5	19.4	14.6	14.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)