

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: P196910

Luminaire Tested: **NAV-AF-02-D-UNV-5NQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196910
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10218 lumens
Efficiency: N/A
Efficacy: 90.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B3 - U0 - G1

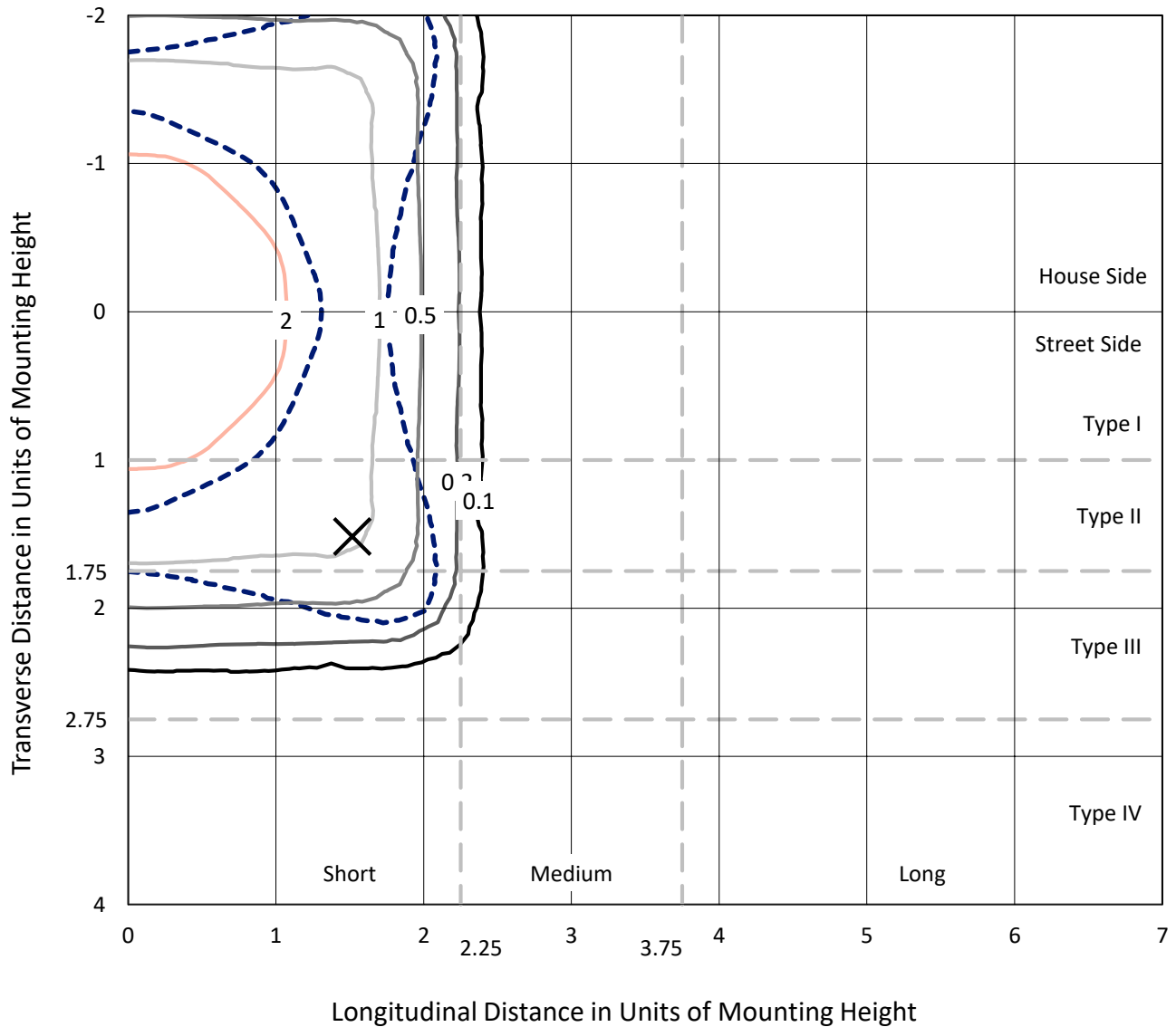
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

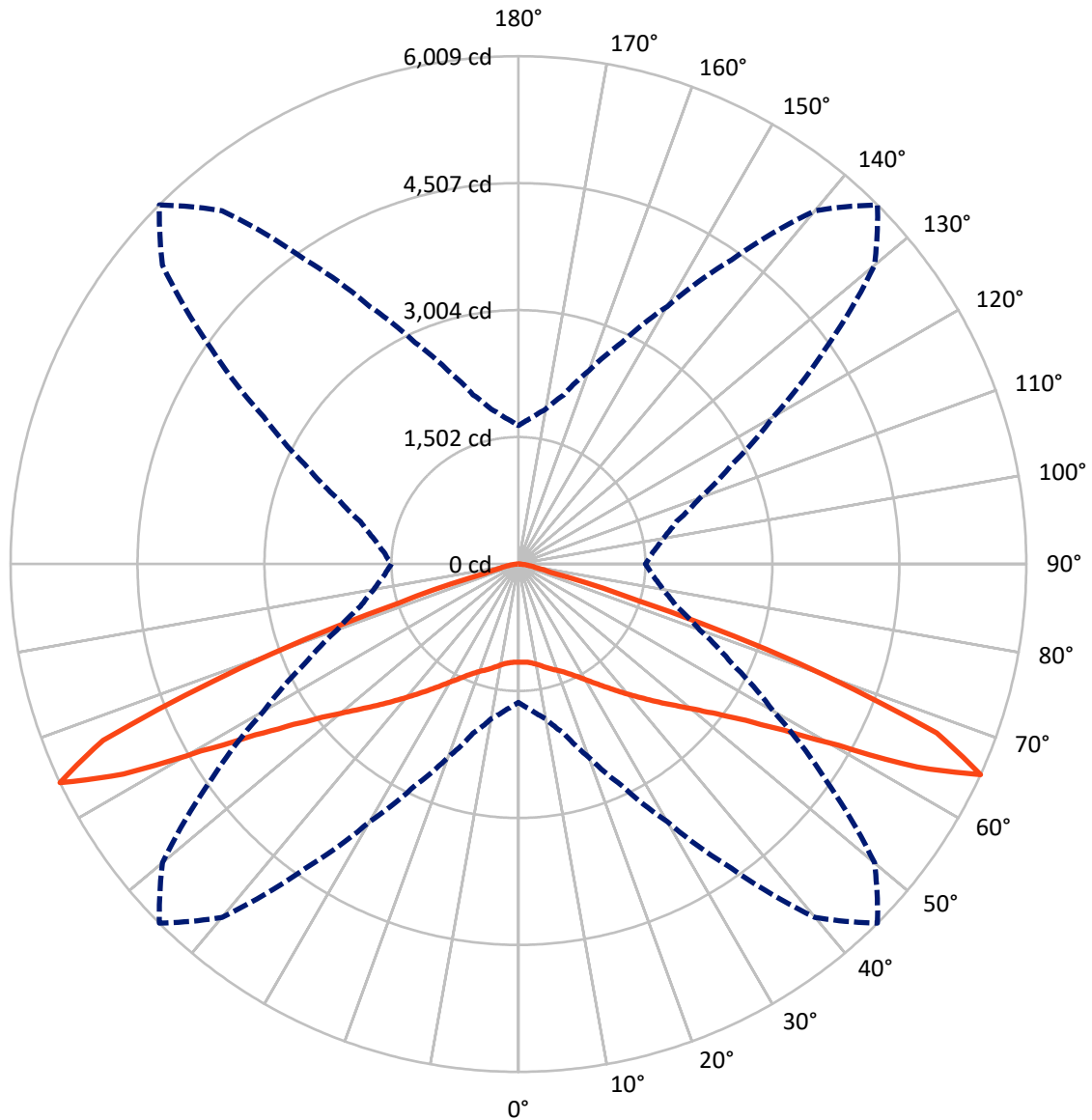
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5109.0	0.0	5109.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5109.0	0.0	5109.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	10218.0	0.0	10218.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.2	1.1
10°-20°	362.8	3.6
20°-30°	676.7	6.6
30°-40°	1141.1	11.2
40°-50°	1853.4	18.1
50°-60°	2904.0	28.4
60°-70°	2741.2	26.8
70°-80°	369.4	3.6
80°-90°	56.3	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°	10218.0	100.0
0°-180°	10218.0	100.0



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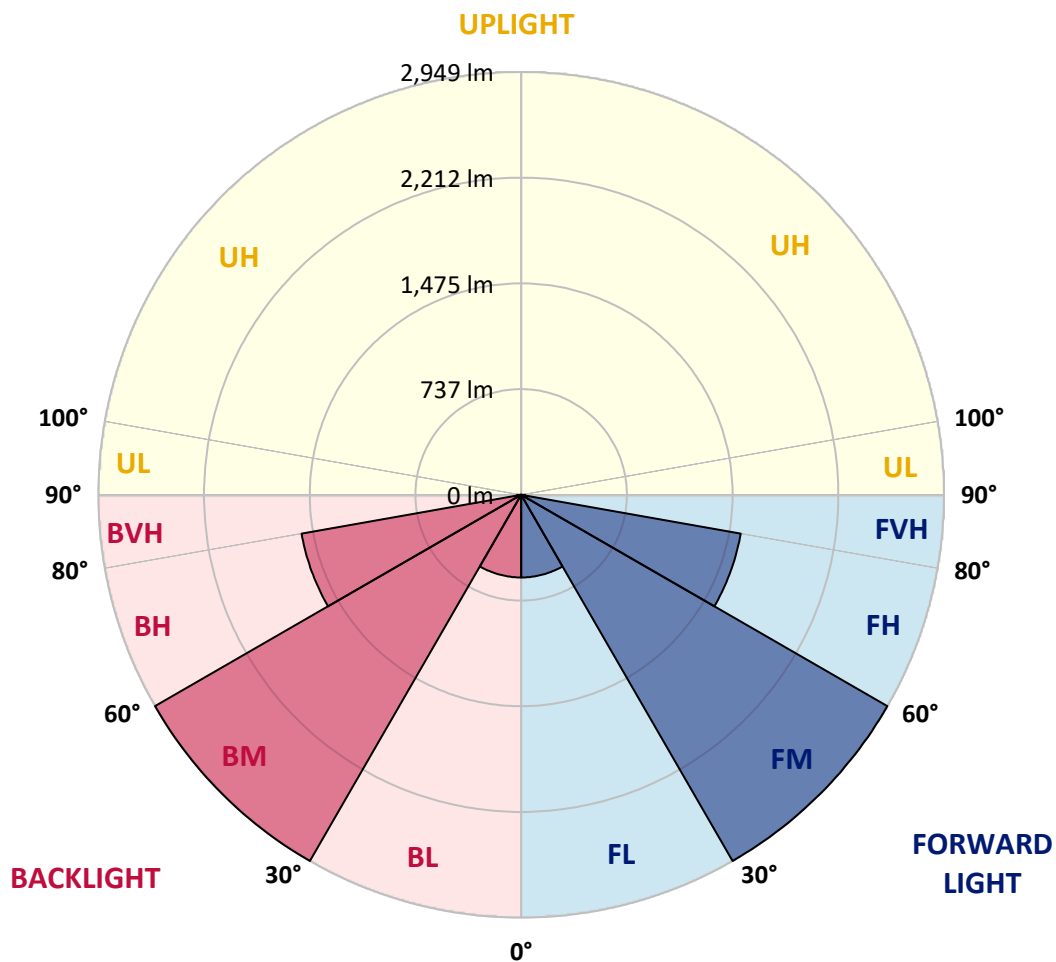
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	576.3	5.6			
FM	(30°-60°)	2949.2	28.9			
FH	(60°-80°)	1555.3	15.2			G1/1800
FVH	(80°-90°)	28.1	0.3			G1/100
BL	(0°-30°)	576.3	5.6	B2/1000		
BM	(30°-60°)	2949.2	28.9	B3/5000		
BH	(60°-80°)	1555.3	15.2	B3/2500		G1/1800
BVH	(80°-90°)	28.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3
2.5°	1171.8	1171.8	1173.7	1173.1	1170.6	1168.7	1166.7	1164.2	1162.9	1161.6	1161.0
5°	1178.2	1178.2	1180.1	1179.5	1177.6	1175.0	1173.7	1171.8	1169.9	1168.7	1169.3
7.5°	1194.1	1194.7	1195.4	1194.7	1192.8	1190.9	1188.4	1187.7	1185.2	1183.3	1184.6
10°	1218.3	1218.3	1218.9	1219.6	1218.3	1213.8	1213.8	1212.6	1210.0	1207.5	1208.1
12.5°	1245.0	1245.0	1245.7	1245.7	1245.7	1243.1	1243.8	1243.1	1239.9	1238.7	1239.9
15°	1271.1	1271.8	1271.8	1273.0	1273.0	1273.7	1276.2	1276.2	1274.9	1274.3	1274.3
17.5°	1301.7	1303.0	1303.6	1305.5	1306.1	1307.4	1310.0	1310.6	1311.2	1309.3	1310.0
20°	1342.4	1343.1	1345.0	1345.6	1348.1	1348.1	1349.4	1348.8	1347.5	1345.0	1345.0
22.5°	1388.2	1389.5	1393.3	1393.3	1396.5	1394.6	1395.3	1393.3	1390.2	1388.9	1387.6
25°	1448.1	1450.0	1453.2	1451.9	1453.2	1450.0	1450.0	1450.0	1448.1	1446.2	1445.5
27.5°	1523.8	1520.6	1523.8	1521.3	1520.6	1518.1	1518.7	1517.5	1515.6	1514.9	1512.4
30°	1602.8	1598.9	1600.8	1601.5	1600.2	1599.6	1597.0	1595.1	1591.9	1592.6	1590.7
32.5°	1693.1	1689.3	1691.2	1691.9	1690.6	1691.9	1691.2	1686.8	1683.0	1685.5	1685.5
35°	1800.7	1798.2	1803.3	1805.2	1801.4	1799.4	1796.9	1791.8	1786.1	1789.9	1790.5
37.5°	1929.9	1926.7	1930.6	1935.7	1928.7	1924.8	1914.7	1907.0	1903.2	1905.1	1907.7
40°	2064.2	2064.9	2075.7	2077.0	2069.3	2064.9	2054.7	2043.2	2032.4	2032.4	2035.6
42.5°	2205.5	2207.5	2220.2	2224.6	2222.1	2213.8	2199.8	2185.8	2171.8	2174.4	2178.2
45°	2365.3	2362.8	2376.1	2386.9	2385.0	2382.5	2369.1	2343.7	2330.9	2330.3	2336.7
47.5°	2533.3	2538.4	2552.4	2570.9	2570.3	2563.9	2546.7	2523.2	2499.6	2501.5	2509.2
50°	2729.4	2736.4	2760.0	2778.4	2781.0	2779.0	2758.7	2731.3	2698.2	2700.1	2710.3
52.5°	2905.1	2915.3	2942.6	2980.8	3004.4	3015.2	3001.8	2976.4	2942.6	2944.5	2955.4
55°	3064.2	3080.1	3120.9	3173.1	3220.2	3264.1	3283.8	3283.2	3258.3	3264.1	3278.1
57.5°	3164.1	3186.4	3248.2	3332.2	3425.7	3514.2	3590.6	3662.5	3678.4	3708.4	3708.4
60°	3029.8	3082.0	3164.1	3308.0	3491.9	3690.5	3905.7	4115.1	4250.0	4356.3	4299.1
62.5°	2530.2	2607.2	2722.4	2912.1	3198.5	3553.1	3985.3	4472.2	4980.1	5290.8	5062.9
65°	1637.1	1733.9	1859.3	2072.5	2433.4	2889.8	3519.3	4394.5	5457.5	6008.7	5499.5
67.5°	648.6	714.2	790.6	942.0	1255.2	1703.3	2409.9	3489.4	4819.1	5339.1	4768.2
70°	310.0	320.8	335.4	367.9	446.2	602.1	968.1	1719.2	2955.4	3503.4	2884.7
72.5°	224.1	226.0	233.0	243.8	266.7	298.5	362.8	525.8	1019.1	1481.8	1020.3
75°	170.0	172.5	176.3	182.0	194.1	209.4	233.6	280.1	348.8	402.3	348.2
77.5°	129.2	131.8	134.9	140.7	147.0	157.9	166.8	185.2	214.5	226.0	224.7
80°	94.2	98.7	103.8	108.8	113.3	118.4	119.0	127.9	144.5	155.3	152.1
82.5°	59.8	63.7	77.0	82.7	83.4	84.7	84.0	84.7	93.6	101.2	98.7
85°	38.2	40.7	47.7	54.1	52.8	55.4	55.4	54.1	50.3	43.3	51.6
87.5°	19.1	19.7	22.9	28.6	27.4	24.2	23.6	23.6	17.2	14.6	15.9
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°	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3	1162.3
2.5°	1159.1	1160.4	1158.5	1158.5	1157.8	1159.1	1157.2	1157.2
5°	1168.0	1169.9	1169.3	1169.3	1170.6	1171.8	1171.2	1170.6
7.5°	1183.9	1185.2	1186.5	1187.1	1188.4	1187.7	1189.0	1188.4
10°	1208.1	1206.8	1208.8	1206.8	1207.5	1206.2	1206.8	1206.8
12.5°	1238.7	1236.8	1235.5	1234.2	1234.2	1231.7	1231.7	1232.3
15°	1273.7	1270.5	1267.9	1266.7	1265.4	1265.4	1263.5	1264.8
17.5°	1308.0	1304.9	1300.4	1300.4	1298.5	1297.2	1296.0	1299.1
20°	1344.3	1341.1	1338.6	1338.0	1334.1	1332.9	1333.5	1337.3
22.5°	1386.3	1384.4	1384.4	1383.2	1380.6	1378.7	1378.7	1383.2
25°	1443.0	1439.2	1439.8	1440.4	1439.2	1439.2	1437.9	1441.1
27.5°	1512.4	1509.2	1511.1	1512.4	1511.1	1513.0	1511.1	1513.6
30°	1593.8	1591.9	1593.8	1595.8	1592.6	1592.6	1591.3	1593.2
32.5°	1691.2	1688.7	1690.0	1690.0	1685.5	1681.7	1676.6	1680.4
35°	1798.2	1795.0	1797.5	1799.4	1794.3	1790.5	1782.9	1786.1
37.5°	1915.9	1917.2	1920.4	1928.7	1927.4	1921.0	1915.3	1917.8
40°	2047.7	2054.0	2068.1	2073.8	2072.5	2066.1	2058.5	2059.8
42.5°	2196.6	2204.9	2219.5	2229.1	2224.6	2215.7	2206.2	2210.0
45°	2358.9	2371.7	2390.8	2400.3	2394.6	2385.0	2371.7	2378.7
47.5°	2530.8	2556.3	2581.7	2594.5	2592.5	2579.2	2562.0	2563.9
50°	2736.4	2770.1	2802.6	2815.3	2805.8	2785.4	2761.2	2760.6
52.5°	2992.3	3028.6	3055.3	3052.1	3028.6	2996.7	2969.4	2968.1
55°	3311.8	3323.9	3320.1	3292.7	3251.3	3201.7	3166.7	3161.0
57.5°	3698.2	3657.4	3597.6	3514.9	3421.9	3327.7	3264.1	3240.5
60°	4170.5	3986.5	3772.7	3547.3	3341.7	3187.7	3090.3	3031.1
62.5°	4560.7	4027.9	3549.9	3158.4	2838.2	2647.9	2514.9	2432.8
65°	4427.0	3479.9	2787.3	2282.6	1933.1	1736.4	1595.8	1502.2
67.5°	3420.0	2325.2	1618.0	1121.5	850.4	719.9	628.9	569.7
70°	1724.3	891.8	540.4	381.3	325.9	303.0	287.7	278.8
72.5°	506.0	338.0	280.7	248.2	228.5	214.5	205.6	201.1
75°	280.1	228.5	201.8	183.3	170.6	161.0	155.3	151.5
77.5°	192.9	166.1	152.8	140.7	130.5	123.5	119.0	115.2
80°	134.9	121.6	115.8	109.5	101.8	96.1	89.7	87.2
82.5°	89.7	84.0	82.7	77.7	73.2	66.8	55.4	51.6
85°	52.8	52.2	52.2	50.3	47.1	41.4	33.1	33.1
87.5°	18.5	19.1	19.7	21.0	20.4	17.2	14.0	13.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)