

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: P197212

Luminaire Tested: **NAV-AF-04-D-UNV-T2-8030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197212
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-04-D-UNV-T2-8030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12839 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

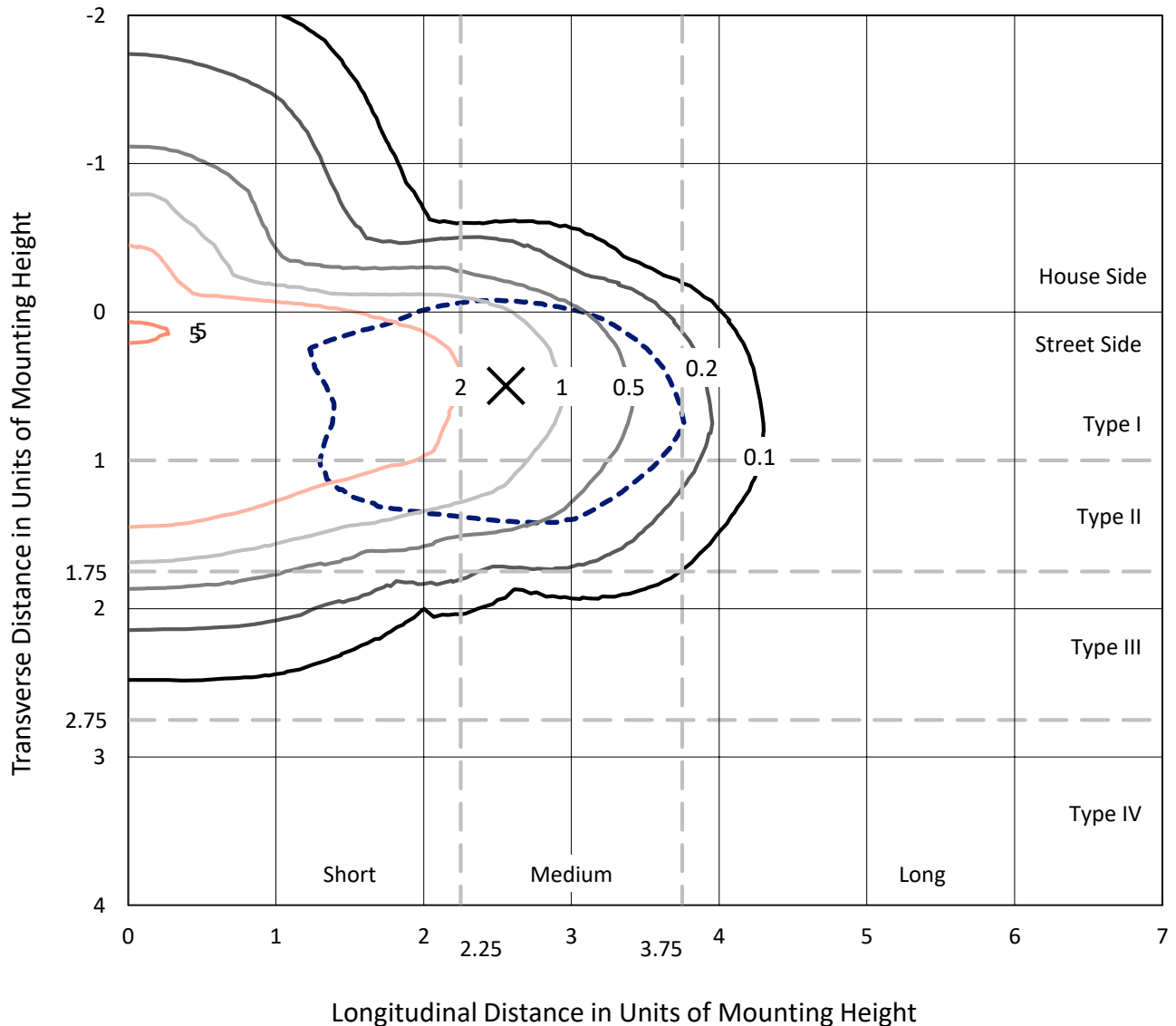
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

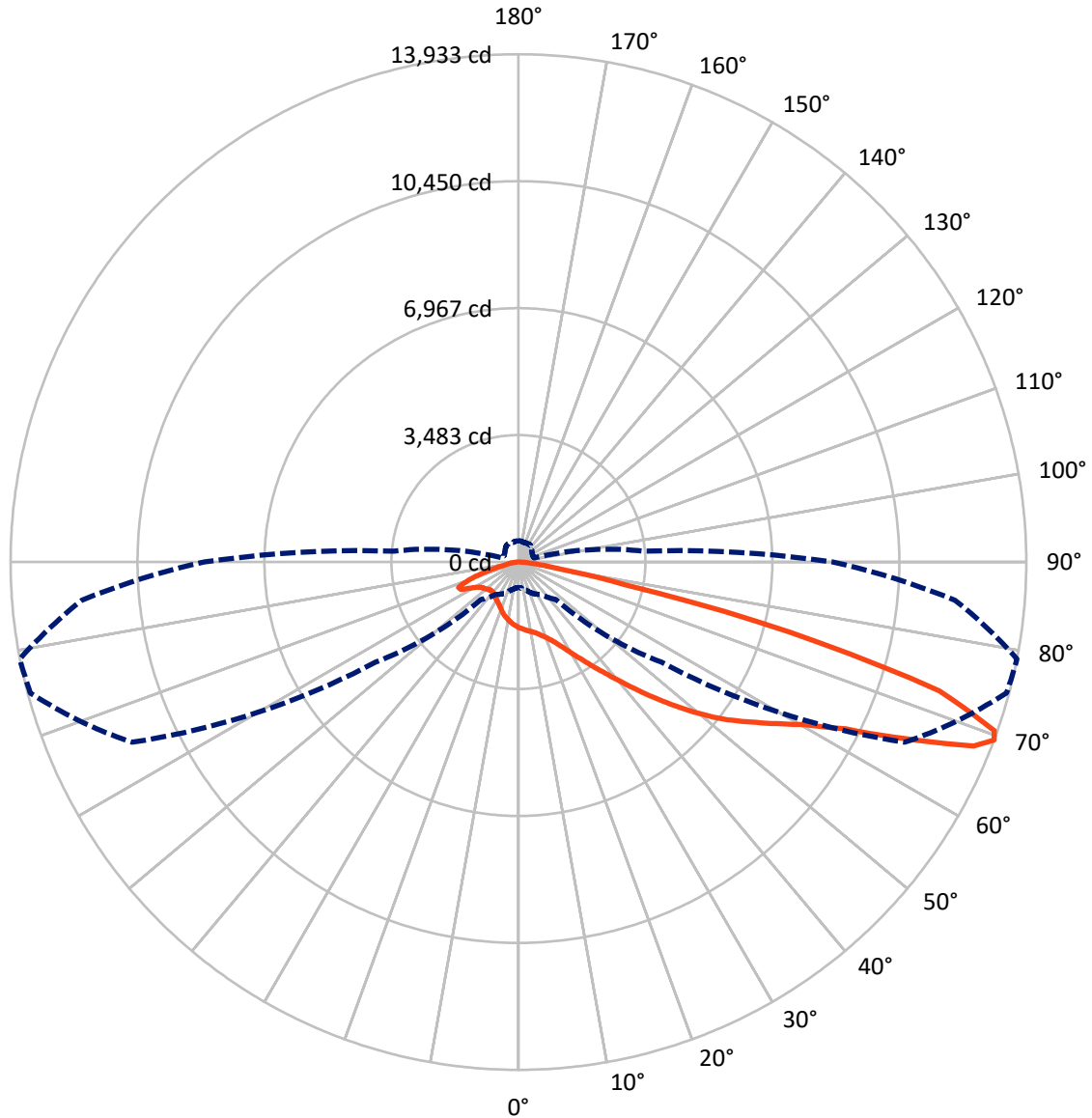
× Max cd
 - - - 1/2 Max cd



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	2415.2	0.0	2415.2
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	10423.8	0.0	10423.8
	% Fixture	81.2	0.0	81.2
Total	Lumens	12839.0	0.0	12839.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.0	1.3
10°-20°	478.9	3.7
20°-30°	791.3	6.2
30°-40°	1281.3	10.0
40°-50°	2046.9	15.9
50°-60°	2931.3	22.8
60°-70°	3265.9	25.4
70°-80°	1633.9	12.7
80°-90°	242.5	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°	12839.0	100.0
0°-180°	12839.0	100.0

Coefficient of Utilization



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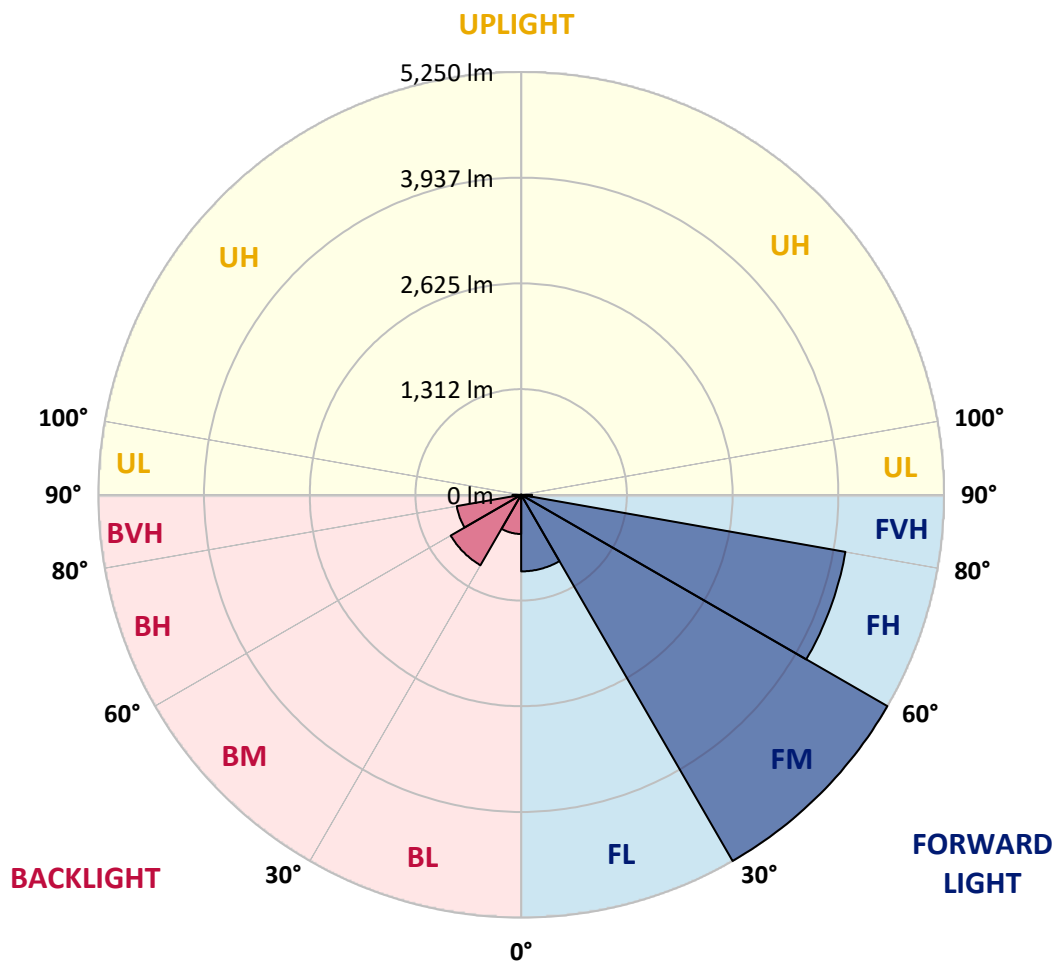
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	950.6	7.4			
FM (30°-60°)	5249.9	40.9			
FH (60°-80°)	4087.8	31.8			G2/5000
FVH (80°-90°)	135.5	1.1			G2/225
BL (0°-30°)	486.6	3.8	B1/500		
BM (30°-60°)	1009.6	7.9	B2/2500		
BH (60°-80°)	812.1	6.3	B2/1000		G2/1000
BVH (80°-90°)	107.0	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°	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7
2.5°	1978.1	1973.9	1973.1	1960.5	1953.8	1939.5	1905.9	1871.4	1839.5	1822.7	1805.1
5°	2143.6	2135.2	2131.0	2110.0	2091.5	2059.6	2006.7	1952.1	1895.0	1865.6	1830.3
7.5°	2243.5	2244.4	2244.4	2227.6	2209.1	2170.5	2103.3	2028.5	1943.7	1905.0	1849.6
10°	2251.9	2252.8	2265.4	2269.6	2273.8	2253.6	2191.5	2097.4	1988.2	1937.8	1865.6
12.5°	2168.8	2174.7	2195.7	2225.9	2268.7	2290.6	2263.7	2171.3	2045.3	1984.0	1895.8
15°	2057.1	2062.9	2089.8	2136.0	2204.9	2278.0	2315.8	2256.1	2120.1	2047.8	1940.3
17.5°	2002.5	2009.2	2027.7	2064.6	2131.8	2230.1	2343.5	2346.9	2208.3	2125.1	1993.2
20°	1976.4	1981.5	2005.0	2035.2	2086.5	2180.5	2346.0	2442.6	2313.3	2216.7	2057.9
22.5°	2036.1	2037.7	2049.5	2066.3	2100.7	2173.0	2344.3	2541.7	2444.3	2331.7	2141.1
25°	2210.8	2199.9	2191.5	2170.5	2178.9	2230.1	2371.2	2647.6	2612.3	2482.9	2251.9
27.5°	2417.4	2415.7	2393.9	2345.2	2314.1	2346.9	2447.6	2766.0	2818.1	2675.3	2397.3
30°	2647.6	2648.4	2625.7	2566.1	2503.1	2506.4	2569.4	2902.9	3064.2	2907.1	2576.2
32.5°	2888.6	2903.7	2861.7	2802.1	2725.7	2701.3	2744.2	3068.4	3348.9	3180.9	2783.6
35°	3176.7	3179.3	3133.1	3045.7	2969.3	2930.6	2970.1	3275.0	3677.4	3502.6	3036.5
37.5°	3475.8	3477.4	3429.6	3317.8	3221.3	3196.1	3239.7	3526.2	4025.1	3868.9	3333.8
40°	3720.2	3737.8	3700.0	3595.0	3497.6	3482.5	3545.5	3826.9	4469.4	4302.3	3687.4
42.5°	3997.4	4017.5	3972.2	3863.0	3785.7	3780.7	3878.9	4169.6	4911.3	4803.7	4088.1
45°	4309.8	4338.4	4275.4	4152.8	4087.3	4198.1	4204.0	4549.2	5420.3	5364.8	4539.2
47.5°	4650.9	4674.4	4623.1	4491.3	4419.9	4580.3	4522.4	4960.0	5970.4	5966.2	5027.2
50°	4913.8	4939.8	4944.9	4886.9	4812.1	4832.3	4871.8	5391.7	6518.9	6584.5	5532.0
52.5°	4865.9	4891.1	5004.5	5156.5	5276.6	5224.6	5272.4	5850.3	7049.0	7187.6	6011.6
55°	4479.5	4493.0	4705.5	5066.6	5578.2	5826.8	5830.2	6349.3	7552.9	7747.0	6466.9
57.5°	3783.2	3784.9	4061.2	4593.7	5402.6	6217.4	6710.5	6975.9	8078.7	8365.2	7031.3
60°	2677.0	2683.7	3005.4	3701.7	4773.5	6170.4	7657.1	8097.2	8687.7	9059.8	7758.7
62.5°	1589.2	1604.3	1847.1	2405.6	3545.5	5565.6	8216.5	10092.1	9584.8	10078.7	8922.9
65°	1034.0	1046.6	1191.9	1472.5	2094.9	4049.5	8032.6	12024.0	11282.4	11681.3	10596.1
67.5°	796.3	806.4	920.6	1090.3	1285.1	2188.9	6422.3	12428.9	13348.7	13473.0	12008.1
69°	699.7	708.1	792.1	955.0	1081.9	1448.9	4786.1	11693.9	13865.2	13933.3	12025.7
70°	648.5	655.2	734.1	875.2	993.7	1156.6	3663.1	10840.5	13676.3	13850.1	11678.8
72.5°	534.2	540.1	596.4	704.7	812.2	824.0	1622.8	7915.8	11515.9	12071.9	9883.0
75°	446.0	449.4	486.3	565.3	657.7	656.0	829.0	4483.7	7027.1	7689.8	6102.3
77.5°	372.1	374.6	399.0	447.7	519.1	516.6	583.8	1935.3	3102.8	2993.6	2100.7
80°	328.4	330.1	342.7	355.3	400.7	398.1	432.6	888.7	1262.5	1166.7	794.6
82.5°	249.5	252.8	316.7	322.5	310.8	299.9	301.5	517.4	646.8	588.8	426.7
85°	141.1	142.0	203.3	237.7	270.5	203.3	195.7	267.1	319.2	279.7	186.5
87.5°	63.0	65.5	97.4	112.6	146.2	119.3	111.7	113.4	137.8	114.2	73.9
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7	1801.7
2.5°	1788.3	1774.0	1740.4	1706.0	1671.5	1649.7	1627.0	1606.0	1597.6	1596.8	1580.8
5°	1795.8	1762.2	1685.8	1601.8	1522.0	1459.9	1407.8	1374.2	1341.4	1335.5	1321.3
7.5°	1798.4	1743.8	1619.4	1485.1	1363.3	1277.6	1225.5	1202.8	1186.9	1182.7	1177.6
10°	1797.5	1720.2	1545.5	1361.6	1223.0	1158.3	1139.0	1144.0	1150.7	1154.1	1154.1
12.5°	1811.0	1709.3	1471.6	1245.7	1132.3	1101.2	1116.3	1142.3	1162.5	1170.9	1172.6
15°	1835.3	1702.6	1390.1	1144.9	1068.4	1076.0	1112.9	1150.7	1179.3	1191.9	1195.3
17.5°	1865.6	1693.4	1296.1	1061.7	1031.5	1057.5	1105.4	1153.3	1187.7	1203.7	1206.2
20°	1899.2	1679.9	1198.6	999.6	998.7	1031.5	1079.4	1133.1	1170.1	1187.7	1186.9
22.5°	1944.5	1667.3	1107.9	954.2	962.6	992.8	1032.3	1081.0	1115.5	1131.4	1128.1
25°	2005.0	1655.6	1026.4	913.9	921.4	941.6	969.3	1006.3	1030.6	1039.0	1033.2
27.5°	2086.5	1646.3	962.6	876.9	876.1	885.3	902.1	922.3	934.0	931.5	922.3
30°	2186.4	1637.1	915.6	844.2	832.4	831.6	839.1	850.9	858.4	843.3	835.8
32.5°	2298.1	1621.1	873.6	815.6	794.6	787.0	790.4	806.4	837.4	822.3	816.4
35°	2430.0	1602.6	831.6	784.5	768.6	754.3	756.8	791.2	885.3	874.4	868.5
37.5°	2588.8	1585.8	792.9	750.9	750.1	732.4	730.8	771.9	897.9	874.4	869.4
40°	2779.4	1582.5	758.5	714.0	727.4	720.7	714.8	740.0	828.2	780.3	771.1
42.5°	3009.6	1597.6	733.3	678.7	701.4	717.3	706.4	712.3	748.4	705.6	698.0
45°	3278.4	1638.8	714.8	647.6	673.6	714.8	702.2	697.2	703.0	679.5	674.5
47.5°	3591.7	1711.8	702.2	621.6	647.6	708.1	700.5	690.4	687.9	674.5	671.1
50°	3926.8	1810.1	693.8	598.1	624.1	696.3	699.7	685.4	681.2	675.3	673.6
52.5°	4259.4	1916.8	683.7	577.9	604.8	682.0	700.5	680.4	674.5	671.1	669.4
55°	4590.4	2027.7	665.2	560.3	590.5	665.2	699.7	673.6	666.9	666.9	666.9
57.5°	5019.6	2196.5	640.9	546.0	572.0	643.4	688.8	666.1	656.8	657.7	658.5
60°	5639.5	2479.6	614.0	530.0	547.7	618.2	672.0	652.7	641.7	645.1	645.9
62.5°	6675.2	2974.3	577.1	507.3	522.5	591.3	650.1	634.2	624.1	630.0	630.8
65°	8056.1	3573.2	528.3	478.8	496.4	561.1	622.4	612.3	601.4	615.7	614.9
67.5°	8898.6	3748.7	477.1	448.5	471.2	529.2	588.0	583.8	576.2	601.4	599.7
69°	8622.2	3431.2	447.7	429.2	453.6	507.3	566.1	564.5	558.6	582.9	581.3
70°	8193.0	3134.7	429.2	416.6	444.3	493.9	551.9	551.9	546.0	567.0	562.8
72.5°	6581.1	2325.0	386.4	384.7	412.4	456.9	513.2	517.4	514.1	521.6	517.4
75°	3863.8	1401.1	344.4	349.4	373.8	417.5	470.4	473.7	470.4	469.5	470.4
77.5°	1339.7	628.3	304.1	311.6	332.6	377.1	423.3	430.1	425.0	419.1	420.8
80°	524.1	365.4	260.4	271.3	288.9	331.8	376.3	380.5	372.9	372.1	365.4
82.5°	315.0	222.6	202.4	220.1	241.9	288.1	325.1	323.4	317.5	351.9	308.3
85°	136.9	123.5	147.8	165.5	176.4	215.9	274.7	267.1	252.8	222.6	217.6
87.5°	55.4	63.8	81.5	98.3	105.8	139.4	188.2	181.4	184.0	151.2	150.4
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)