

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: P197218

Luminaire Tested: **NAV-AF-04-D-UNV-T2-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197218
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-T2-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15744 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

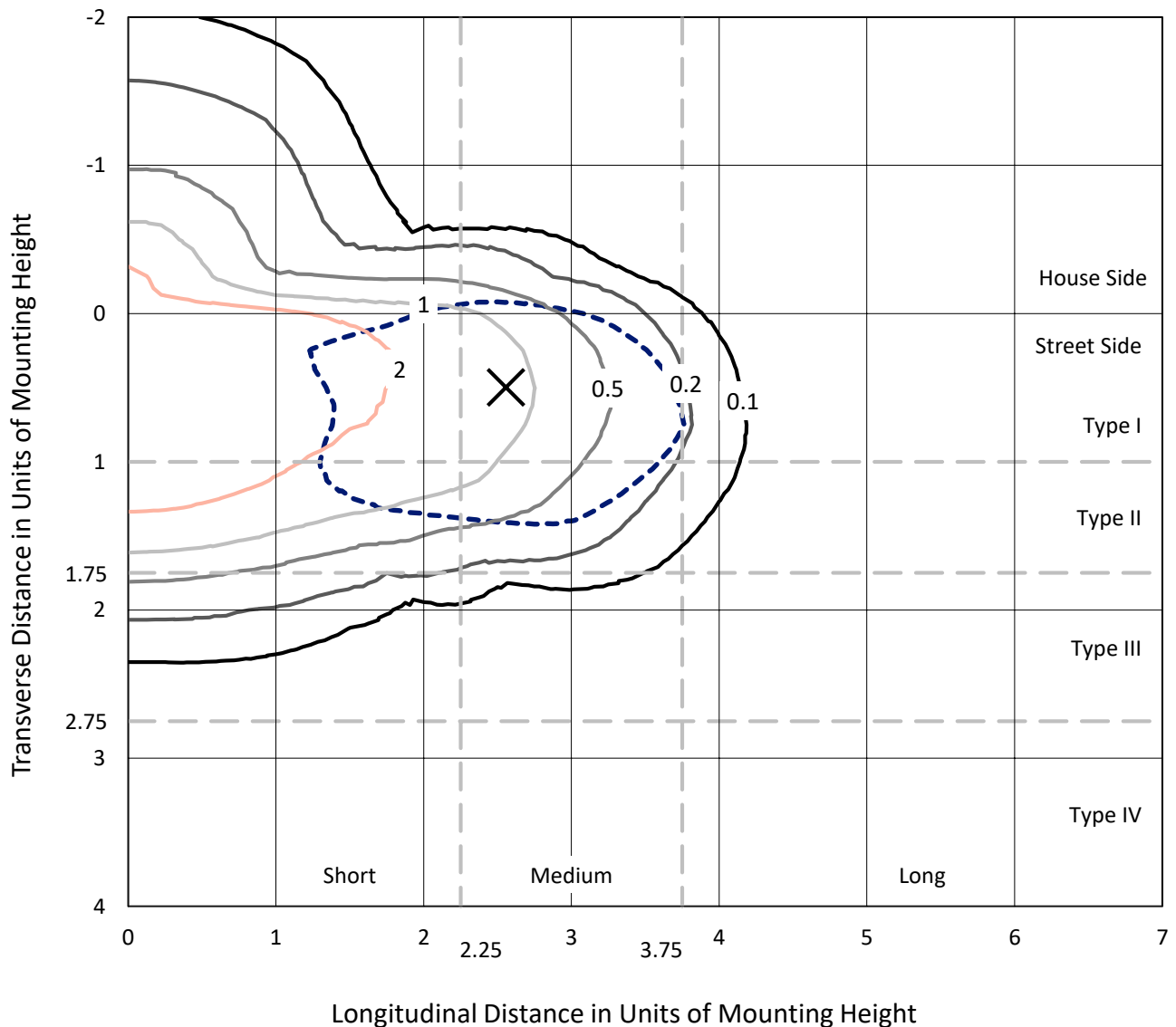
Input Watts (W): 171
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

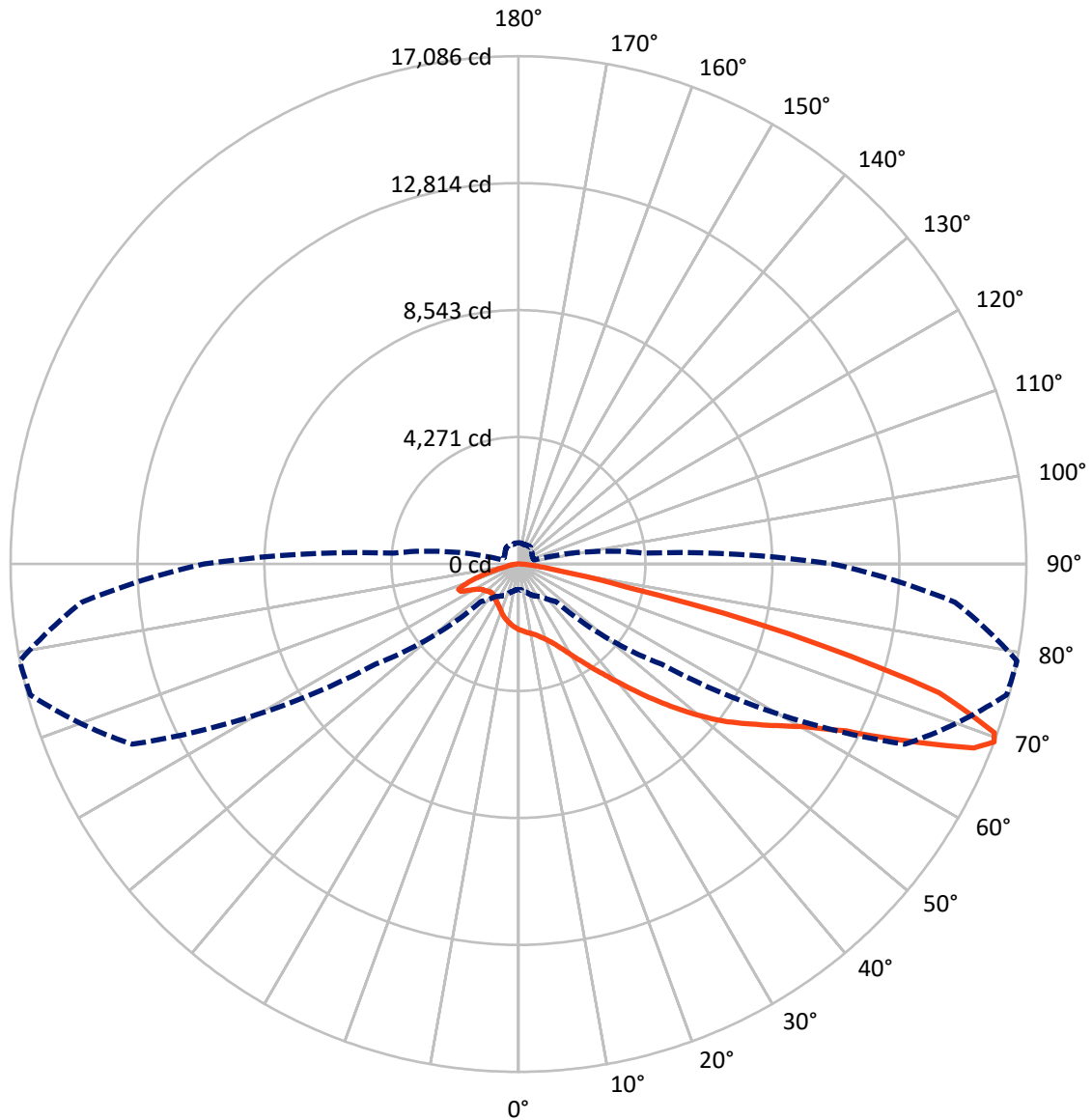
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	2961.7	0.0	2961.7
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	12782.3	0.0	12782.3
	% Fixture	81.2	0.0	81.2
Total	Lumens	15744.0	0.0	15744.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.8	1.3
10°-20°	587.2	3.7
20°-30°	970.3	6.2
30°-40°	1571.2	10.0
40°-50°	2510.0	15.9
50°-60°	3594.6	22.8
60°-70°	4004.9	25.4
70°-80°	2003.6	12.7
80°-90°	297.3	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°	15744.0	100.0
0°-180°	15744.0	100.0

Coefficient of Utilization



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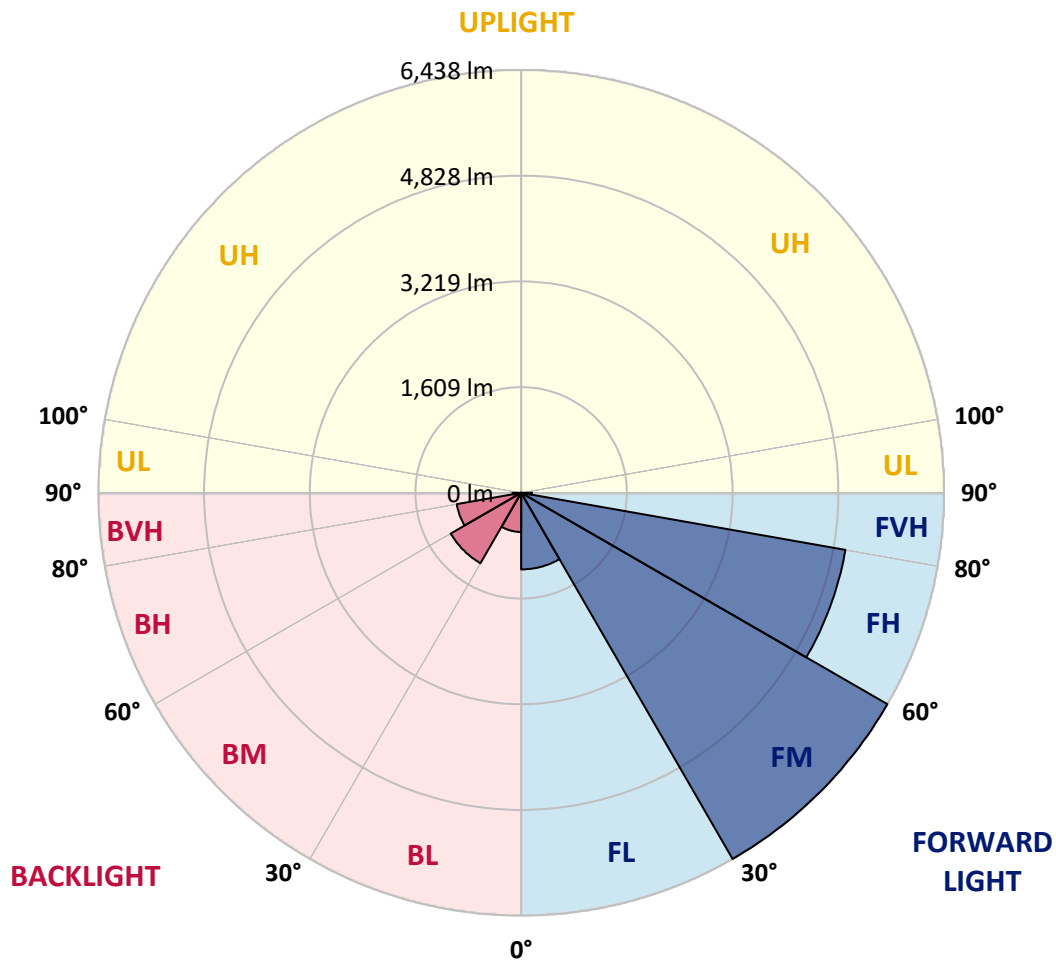
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1165.7	7.4			
FM (30°-60°)	6437.7	40.9			
FH (60°-80°)	5012.7	31.8			G3/7500
FVH (80°-90°)	166.1	1.1			G2/225
BL (0°-30°)	596.6	3.8	B2/1000		
BM (30°-60°)	1238.0	7.9	B2/2500		
BH (60°-80°)	995.8	6.3	B2/1000		G2/1000
BVH (80°-90°)	131.2	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4
2.5°	2425.7	2420.5	2419.5	2404.1	2395.8	2378.3	2337.1	2294.9	2255.7	2235.1	2213.5
5°	2628.6	2618.3	2613.1	2587.4	2564.7	2525.6	2460.7	2393.8	2323.7	2287.7	2244.4
7.5°	2751.2	2752.2	2752.2	2731.6	2708.9	2661.6	2579.2	2487.5	2383.5	2336.1	2268.1
10°	2761.5	2762.5	2777.9	2783.1	2788.2	2763.5	2687.3	2571.9	2438.0	2376.2	2287.7
12.5°	2659.5	2666.7	2692.5	2729.5	2782.1	2808.8	2775.9	2662.6	2508.1	2432.9	2324.7
15°	2522.5	2529.7	2562.7	2619.3	2703.8	2793.4	2839.7	2766.6	2599.8	2511.2	2379.3
17.5°	2455.6	2463.8	2486.5	2531.8	2614.2	2734.7	2873.7	2877.9	2707.9	2605.9	2444.2
20°	2423.6	2429.8	2458.6	2495.7	2558.6	2673.9	2876.8	2995.3	2836.7	2718.2	2523.5
22.5°	2496.8	2498.8	2513.2	2533.8	2576.1	2664.6	2874.8	3116.8	2997.3	2859.3	2625.5
25°	2711.0	2697.6	2687.3	2661.6	2671.9	2734.7	2907.7	3246.6	3203.3	3044.7	2761.5
27.5°	2964.4	2962.3	2935.5	2875.8	2837.7	2877.9	3001.5	3391.8	3455.7	3280.6	2939.7
30°	3246.6	3247.6	3219.8	3146.7	3069.4	3073.6	3150.8	3559.7	3757.5	3564.9	3159.1
32.5°	3542.2	3560.8	3509.3	3436.1	3342.4	3312.5	3365.1	3762.6	4106.7	3900.7	3413.5
35°	3895.5	3898.6	3842.0	3734.8	3641.1	3593.7	3642.1	4016.0	4509.4	4295.2	3723.5
37.5°	4262.2	4264.3	4205.5	4068.6	3950.1	3919.2	3972.8	4324.0	4935.8	4744.2	4088.1
40°	4561.9	4583.6	4537.2	4408.5	4289.0	4270.4	4347.7	4692.7	5480.7	5275.7	4521.8
42.5°	4901.8	4926.6	4870.9	4737.0	4642.3	4636.1	4756.6	5113.0	6022.5	5890.7	5013.1
45°	5285.0	5320.0	5242.8	5092.4	5012.0	5148.0	5155.2	5578.6	6646.7	6578.7	5566.2
47.5°	5703.2	5732.0	5669.2	5507.5	5419.9	5616.7	5545.6	6082.2	7321.3	7316.2	6164.6
50°	6025.6	6057.5	6063.7	5992.6	5901.0	5925.7	5974.1	6611.7	7993.9	8074.3	6783.7
52.5°	5966.9	5997.8	6136.8	6323.3	6470.6	6406.7	6465.4	7174.0	8643.9	8813.8	7371.8
55°	5493.1	5509.5	5770.1	6213.0	6840.3	7145.2	7149.3	7785.9	9261.9	9499.8	7930.1
57.5°	4639.2	4641.2	4980.1	5633.1	6625.1	7624.2	8228.8	8554.3	9906.7	10257.9	8622.3
60°	3282.7	3290.9	3685.4	4539.3	5853.6	7566.5	9389.6	9929.3	10653.4	11109.7	9514.2
62.5°	1948.8	1967.3	2265.0	2950.0	4347.7	6824.9	10075.6	12375.6	11753.5	12359.1	10941.8
65°	1267.9	1283.4	1461.6	1805.6	2568.9	4965.7	9850.0	14744.7	13835.2	14324.4	12993.6
67.5°	976.5	988.8	1128.9	1337.0	1575.9	2684.2	7875.5	15241.1	16369.0	16521.4	14725.1
69°	858.0	868.3	971.3	1171.1	1326.7	1776.8	5869.0	14339.9	17002.4	17085.9	14746.7
70°	795.2	803.4	900.2	1073.3	1218.5	1418.3	4491.9	13293.4	16770.7	16983.9	14321.3
72.5°	655.1	662.3	731.3	864.2	996.0	1010.4	1990.0	9706.9	14121.5	14803.4	12119.1
75°	546.9	551.1	596.4	693.2	806.5	804.4	1016.6	5498.2	8617.1	9429.8	7483.1
77.5°	456.3	459.4	489.3	549.0	636.5	633.5	715.9	2373.2	3804.9	3671.0	2576.1
80°	402.7	404.8	420.2	435.7	491.3	488.2	530.5	1089.8	1548.1	1430.7	974.4
82.5°	305.9	310.0	388.3	395.5	381.1	367.7	369.8	634.5	793.1	722.0	523.2
85°	173.0	174.1	249.3	291.5	331.7	249.3	240.0	327.5	391.4	343.0	228.7
87.5°	77.3	80.3	119.5	138.0	179.2	146.3	137.0	139.1	168.9	140.1	90.6
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°	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4	2209.4
2.5°	2192.9	2175.4	2134.2	2092.0	2049.7	2022.9	1995.1	1969.4	1959.1	1958.1	1938.5
5°	2202.2	2161.0	2067.2	1964.2	1866.4	1790.2	1726.3	1685.1	1644.9	1637.7	1620.2
7.5°	2205.3	2138.3	1985.9	1821.1	1671.7	1566.7	1502.8	1475.0	1455.4	1450.3	1444.1
10°	2204.2	2109.5	1895.2	1669.7	1499.7	1420.4	1396.7	1402.9	1411.1	1415.2	1415.2
12.5°	2220.7	2096.1	1804.6	1527.5	1388.5	1350.3	1368.9	1400.8	1425.5	1435.8	1437.9
15°	2250.6	2087.8	1704.7	1403.9	1310.2	1319.4	1364.8	1411.1	1446.1	1461.6	1465.7
17.5°	2287.7	2076.5	1589.3	1301.9	1264.9	1296.8	1355.5	1414.2	1456.4	1476.0	1479.1
20°	2328.9	2060.0	1469.8	1225.7	1224.7	1264.9	1323.6	1389.5	1434.8	1456.4	1455.4
22.5°	2384.5	2044.6	1358.6	1170.1	1180.4	1217.5	1265.9	1325.6	1367.9	1387.4	1383.3
25°	2458.6	2030.2	1258.7	1120.7	1129.9	1154.6	1188.6	1234.0	1263.8	1274.1	1266.9
27.5°	2558.6	2018.8	1180.4	1075.3	1074.3	1085.6	1106.2	1131.0	1145.4	1142.3	1131.0
30°	2681.1	2007.5	1122.7	1035.2	1020.7	1019.7	1029.0	1043.4	1052.7	1034.1	1024.9
32.5°	2818.1	1987.9	1071.2	1000.1	974.4	965.1	969.2	988.8	1026.9	1008.4	1001.2
35°	2979.8	1965.3	1019.7	962.0	942.5	925.0	928.0	970.3	1085.6	1072.2	1065.0
37.5°	3174.5	1944.7	972.3	920.8	919.8	898.2	896.1	946.6	1101.1	1072.2	1066.1
40°	3408.3	1940.5	930.1	875.5	892.0	883.8	876.5	907.4	1015.6	956.9	945.6
42.5°	3690.5	1959.1	899.2	832.3	860.1	879.6	866.2	873.5	917.7	865.2	855.9
45°	4020.1	2009.6	876.5	794.1	826.1	876.5	861.1	854.9	862.1	833.3	827.1
47.5°	4404.3	2099.2	861.1	762.2	794.1	868.3	859.0	846.7	843.6	827.1	823.0
50°	4815.3	2219.7	850.8	733.4	765.3	853.9	858.0	840.5	835.3	828.1	826.1
52.5°	5223.2	2350.5	838.4	708.6	741.6	836.4	859.0	834.3	827.1	823.0	820.9
55°	5629.0	2486.5	815.8	687.0	724.1	815.8	858.0	826.1	817.8	817.8	817.8
57.5°	6155.4	2693.5	785.9	669.5	701.4	789.0	844.6	816.8	805.5	806.5	807.5
60°	6915.5	3040.6	752.9	649.9	671.6	758.1	824.0	800.3	786.9	791.1	792.1
62.5°	8185.5	3647.3	707.6	622.1	640.7	725.1	797.2	777.7	765.3	772.5	773.5
65°	9878.9	4381.7	647.9	587.1	608.7	688.0	763.2	750.9	737.5	755.0	754.0
67.5°	10912.0	4597.0	585.0	550.0	577.8	648.9	721.0	715.9	706.6	737.5	735.4
69°	10573.1	4207.6	549.0	526.3	556.2	622.1	694.2	692.2	685.0	714.8	712.8
70°	10046.8	3844.0	526.3	510.9	544.9	605.6	676.7	676.7	669.5	695.3	690.1
72.5°	8070.2	2851.1	473.8	471.7	505.7	560.3	629.3	634.5	630.4	639.6	634.5
75°	4738.1	1718.1	422.3	428.5	458.4	511.9	576.8	580.9	576.8	575.8	576.8
77.5°	1642.9	770.5	372.9	382.1	407.9	462.5	519.1	527.4	521.2	514.0	516.0
80°	642.7	448.1	319.3	332.7	354.3	406.9	461.4	466.6	457.3	456.3	448.1
82.5°	386.3	273.0	248.2	269.9	296.6	353.3	398.6	396.6	389.3	431.6	378.0
85°	167.9	151.4	181.3	202.9	216.3	264.7	336.8	327.5	310.0	273.0	266.8
87.5°	68.0	78.3	99.9	120.5	129.8	171.0	230.7	222.5	225.6	185.4	184.4
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)