

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: P195308

Luminaire Tested: **NAV-AF-02-D-UNV-T2-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195308
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-02-D-UNV-T2-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13079 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B2 - U0 - G2

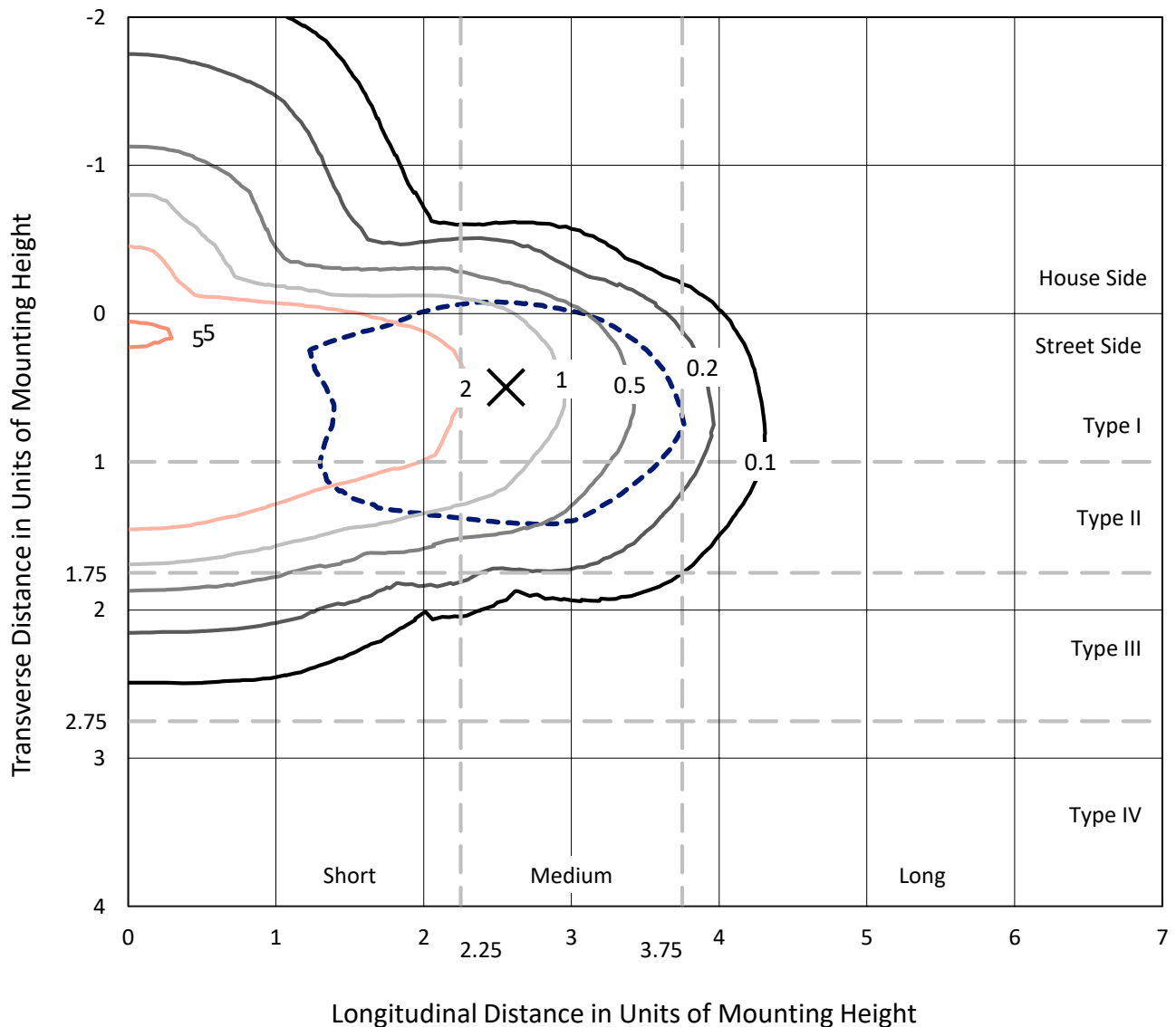
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

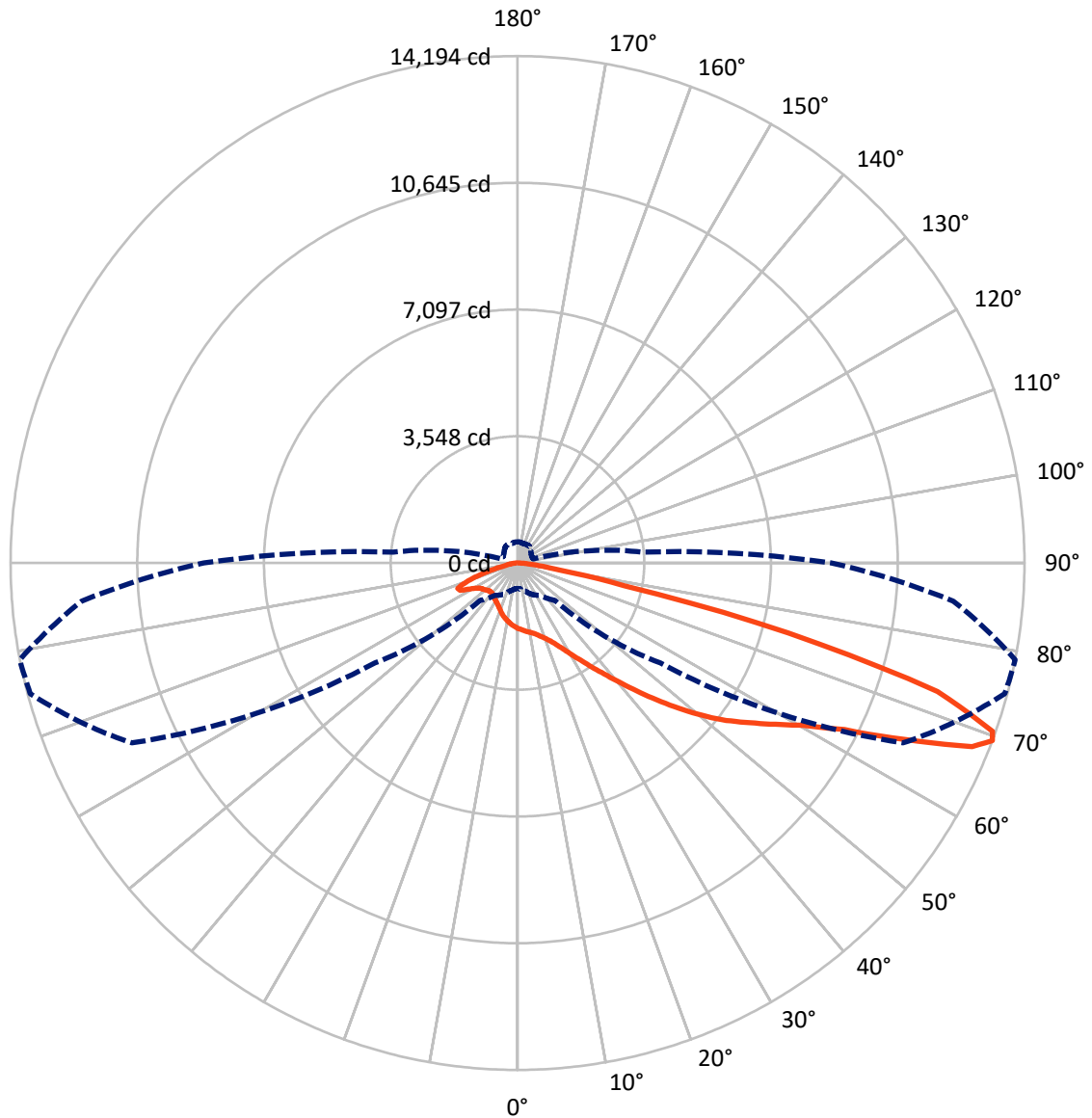
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.5 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	2460.4	0.0	2460.4
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	10618.6	0.0	10618.6
	% Fixture	81.2	0.0	81.2
Total	Lumens	13079.0	0.0	13079.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.1	1.3
10°-20°	487.8	3.7
20°-30°	806.1	6.2
30°-40°	1305.3	10.0
40°-50°	2085.1	15.9
50°-60°	2986.1	22.8
60°-70°	3327.0	25.4
70°-80°	1664.5	12.7
80°-90°	247.0	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°	13079.0	100.0
0°-180°	13079.0	100.0



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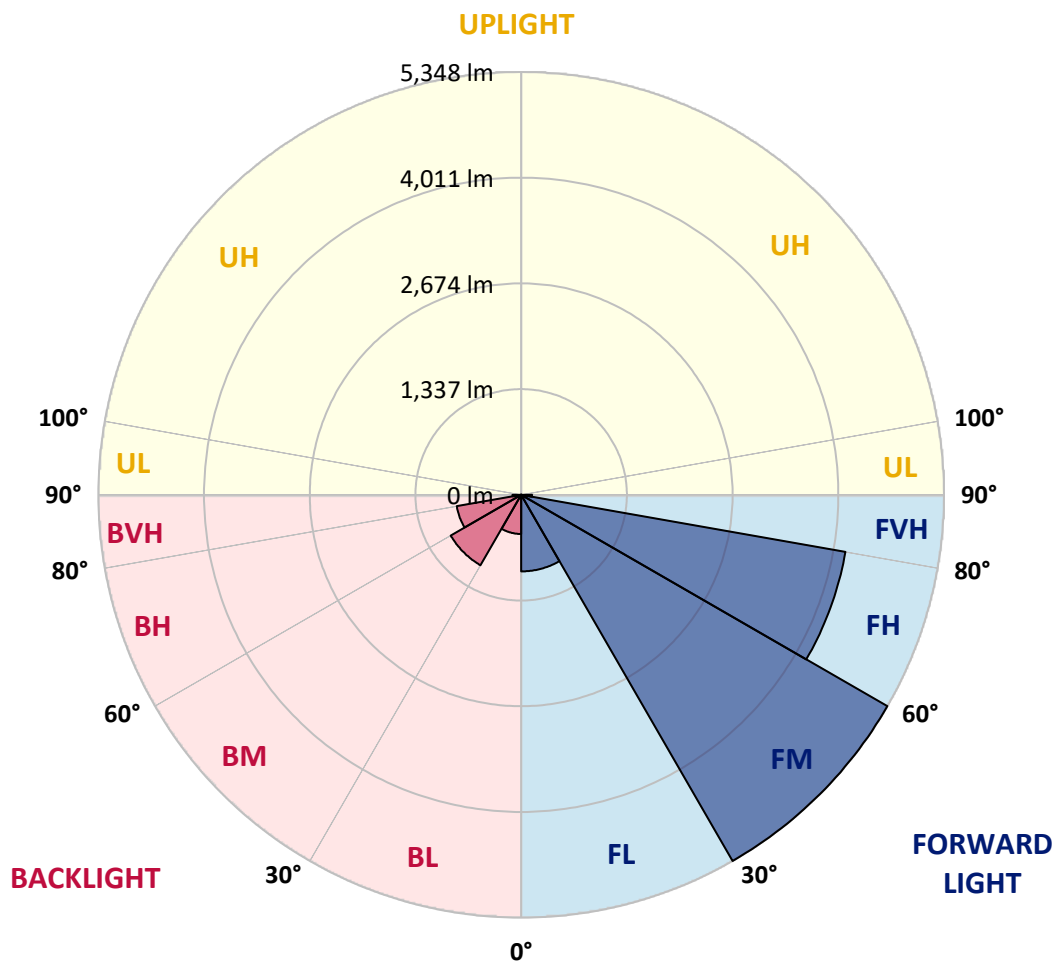
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	968.4	7.4			
FM	(30°-60°)	5348.0	40.9			
FH	(60°-80°)	4164.2	31.8			G2/5000
FVH	(80°-90°)	138.0	1.1			G2/225
BL	(0°-30°)	495.7	3.8	B1/500		
BM	(30°-60°)	1028.5	7.9	B2/2500		
BH	(60°-80°)	827.3	6.3	B2/1000		G2/1000
BVH	(80°-90°)	109.0	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°	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4
2.5°	2015.1	2010.8	2010.0	1997.1	1990.3	1975.7	1941.5	1906.4	1873.9	1856.8	1838.8
5°	2183.7	2175.1	2170.8	2149.4	2130.6	2098.1	2044.2	1988.6	1930.4	1900.4	1864.5
7.5°	2285.5	2286.3	2286.3	2269.2	2250.4	2211.0	2142.6	2066.4	1980.0	1940.6	1884.2
10°	2294.0	2294.9	2307.7	2312.0	2316.3	2295.7	2232.4	2136.6	2025.4	1974.0	1900.4
12.5°	2209.3	2215.3	2236.7	2267.5	2311.1	2333.4	2306.0	2211.9	2083.5	2021.1	1931.2
15°	2095.5	2101.5	2128.9	2176.0	2246.1	2320.6	2359.1	2298.3	2159.7	2086.1	1976.6
17.5°	2039.9	2046.7	2065.6	2103.2	2171.7	2271.8	2387.3	2390.7	2249.5	2164.8	2030.5
20°	2013.4	2018.5	2042.5	2073.3	2125.5	2221.3	2389.9	2488.3	2356.5	2258.1	2096.4
22.5°	2074.1	2075.8	2087.8	2104.9	2140.0	2213.6	2388.2	2589.2	2490.0	2375.3	2181.1
25°	2252.1	2241.0	2232.4	2211.0	2219.6	2271.8	2415.5	2697.0	2661.1	2529.3	2294.0
27.5°	2462.6	2460.9	2438.6	2389.0	2357.4	2390.7	2493.4	2817.7	2870.7	2725.3	2442.1
30°	2697.0	2697.9	2674.8	2614.1	2549.9	2553.3	2617.5	2957.2	3121.5	2961.4	2624.3
32.5°	2942.6	2958.0	2915.2	2854.5	2776.6	2751.8	2795.5	3125.7	3411.5	3240.4	2835.7
35°	3236.1	3238.7	3191.6	3102.6	3024.8	2985.4	3025.6	3336.2	3746.1	3568.1	3093.2
37.5°	3540.7	3542.4	3493.7	3379.9	3281.5	3255.8	3300.3	3592.1	4100.3	3941.2	3396.1
40°	3789.7	3807.7	3769.2	3662.2	3563.0	3547.6	3611.8	3898.4	4553.0	4382.7	3756.4
42.5°	4072.1	4092.6	4046.4	3935.2	3856.5	3851.3	3951.5	4247.5	5003.1	4893.5	4164.5
45°	4390.4	4419.5	4355.3	4230.4	4163.7	4276.6	4282.6	4634.3	5521.6	5465.1	4624.0
47.5°	4737.8	4761.8	4709.6	4575.2	4502.5	4665.9	4606.9	5052.7	6082.1	6077.8	5121.1
50°	5005.6	5032.2	5037.3	4978.2	4902.1	4922.6	4962.8	5492.5	6640.8	6707.5	5635.4
52.5°	4956.9	4982.5	5098.0	5252.9	5375.3	5322.2	5371.0	5959.7	7180.7	7321.9	6124.0
55°	4563.3	4576.9	4793.4	5161.4	5682.5	5935.7	5939.2	6468.0	7694.1	7891.8	6587.7
57.5°	3853.9	3855.6	4137.1	4679.6	5503.6	6333.6	6835.9	7106.3	8229.8	8521.5	7162.8
60°	2727.0	2733.8	3061.6	3770.9	4862.7	6285.7	7800.2	8248.6	8850.1	9229.2	7903.8
62.5°	1618.9	1634.3	1881.6	2450.6	3611.8	5669.6	8370.1	10280.8	9764.0	10267.1	9089.7
65°	1053.3	1066.2	1214.2	1500.0	2134.0	4125.2	8182.7	12248.8	11493.3	11899.7	10794.2
67.5°	811.2	821.4	937.8	1110.7	1309.2	2229.9	6542.4	12661.2	13598.2	13724.8	12232.6
69°	712.8	721.3	806.9	972.9	1102.1	1476.0	4875.6	11912.5	14124.4	14193.7	12250.5
70°	660.6	667.4	747.8	891.6	1012.2	1178.2	3731.5	11043.2	13931.9	14109.0	11897.1
72.5°	544.2	550.2	607.5	717.9	827.4	839.4	1653.1	8063.8	11731.1	12297.6	10067.7
75°	454.4	457.8	495.4	575.9	670.0	668.3	844.5	4567.5	7158.5	7833.6	6216.4
77.5°	379.1	381.6	406.4	456.1	528.8	526.2	594.7	1971.4	3160.8	3049.6	2140.0
80°	334.6	336.3	349.1	361.9	408.2	405.6	440.7	905.3	1286.1	1188.5	809.5
82.5°	254.1	257.6	322.6	328.6	316.6	305.5	307.2	527.1	658.9	599.8	434.7
85°	143.8	144.6	207.1	242.2	275.5	207.1	199.4	272.1	325.2	284.9	190.0
87.5°	64.2	66.7	99.3	114.7	148.9	121.5	113.8	115.5	140.3	116.4	75.3
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°	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4	1835.4
2.5°	1821.7	1807.2	1772.9	1737.9	1702.8	1680.5	1657.4	1636.0	1627.5	1626.6	1610.4
5°	1829.4	1795.2	1717.3	1631.7	1550.5	1487.1	1434.1	1399.9	1366.5	1360.5	1346.0
7.5°	1832.0	1776.4	1649.7	1512.8	1388.7	1301.5	1248.4	1225.3	1209.1	1204.8	1199.6
10°	1831.1	1752.4	1574.4	1387.0	1245.8	1180.0	1160.3	1165.4	1172.3	1175.7	1175.7
12.5°	1844.8	1741.3	1499.1	1268.9	1153.4	1121.8	1137.2	1163.7	1184.2	1192.8	1194.5
15°	1869.6	1734.4	1416.1	1166.3	1088.4	1096.1	1133.8	1172.3	1201.4	1214.2	1217.6
17.5°	1900.4	1725.0	1320.3	1081.6	1050.8	1077.3	1126.1	1174.8	1209.9	1226.2	1228.7
20°	1934.7	1711.3	1221.0	1018.2	1017.4	1050.8	1099.5	1154.3	1191.9	1209.9	1209.1
22.5°	1980.9	1698.5	1128.6	972.0	980.6	1011.4	1051.6	1101.2	1136.3	1152.6	1149.2
25°	2042.5	1686.5	1045.6	931.0	938.7	959.2	987.4	1025.1	1049.9	1058.5	1052.5
27.5°	2125.5	1677.1	980.6	893.3	892.5	901.9	919.0	939.5	951.5	948.9	939.5
30°	2227.3	1667.7	932.7	859.9	848.0	847.1	854.8	866.8	874.5	859.1	851.4
32.5°	2341.1	1651.4	889.9	830.8	809.5	801.8	805.2	821.4	853.1	837.7	831.7
35°	2475.4	1632.6	847.1	799.2	782.9	768.4	771.0	806.0	901.9	890.7	884.8
37.5°	2637.2	1615.5	807.7	765.0	764.1	746.1	744.4	786.4	914.7	890.7	885.6
40°	2831.4	1612.1	772.7	727.3	741.0	734.2	728.2	753.8	843.7	794.9	785.5
42.5°	3065.8	1627.5	747.0	691.4	714.5	730.7	719.6	725.6	762.4	718.8	711.1
45°	3339.7	1669.4	728.2	659.7	686.2	728.2	715.3	710.2	716.2	692.2	687.1
47.5°	3658.8	1743.8	715.3	633.2	659.7	721.3	713.6	703.4	700.8	687.1	683.7
50°	4000.2	1844.0	706.8	609.2	635.8	709.3	712.8	698.2	693.9	688.0	686.2
52.5°	4339.1	1952.6	696.5	588.7	616.1	694.8	713.6	693.1	687.1	683.7	682.0
55°	4676.2	2065.6	677.7	570.7	601.5	677.7	712.8	686.2	679.4	679.4	679.4
57.5°	5113.4	2237.6	652.9	556.2	582.7	655.4	701.6	678.5	669.1	670.0	670.8
60°	5744.9	2525.9	625.5	539.9	557.9	629.8	684.5	664.9	653.7	657.1	658.0
62.5°	6800.0	3029.9	587.8	516.8	532.2	602.4	662.3	646.0	635.8	641.7	642.6
65°	8206.7	3640.0	538.2	487.7	505.7	571.6	634.0	623.8	612.7	627.2	626.3
67.5°	9064.9	3818.8	486.0	456.9	480.0	539.1	599.0	594.7	587.0	612.7	610.9
69°	8783.4	3495.4	456.1	437.2	462.1	516.8	576.7	575.0	569.0	593.8	592.1
70°	8346.1	3193.3	437.2	424.4	452.6	503.1	562.2	562.2	556.2	577.6	573.3
72.5°	6704.1	2368.5	393.6	391.9	420.1	465.5	522.8	527.1	523.7	531.4	527.1
75°	3936.0	1427.2	350.8	356.0	380.8	425.3	479.2	482.6	479.2	478.3	479.2
77.5°	1364.8	640.0	309.7	317.5	338.8	384.2	431.3	438.1	433.0	427.0	428.7
80°	533.9	372.2	265.3	276.4	294.3	338.0	383.3	387.6	379.9	379.1	372.2
82.5°	320.9	226.8	206.2	224.2	246.4	293.5	331.1	329.4	323.4	358.5	314.0
85°	139.5	125.8	150.6	168.6	179.7	219.9	279.8	272.1	257.6	226.8	221.6
87.5°	56.5	65.0	83.0	100.1	107.8	142.0	191.7	184.8	187.4	154.0	153.2
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)