

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: P270555

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270555
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17260.3 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

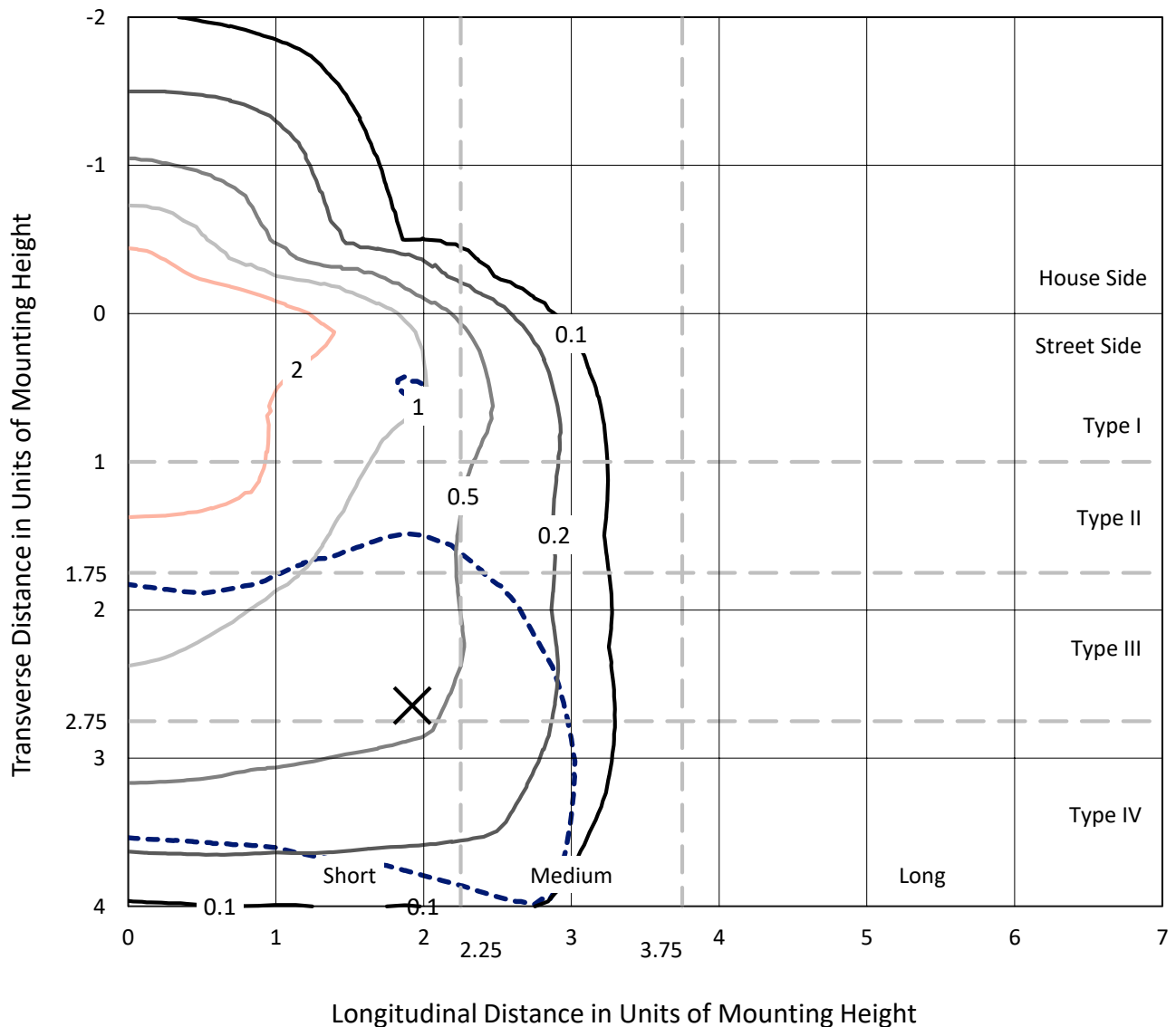
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

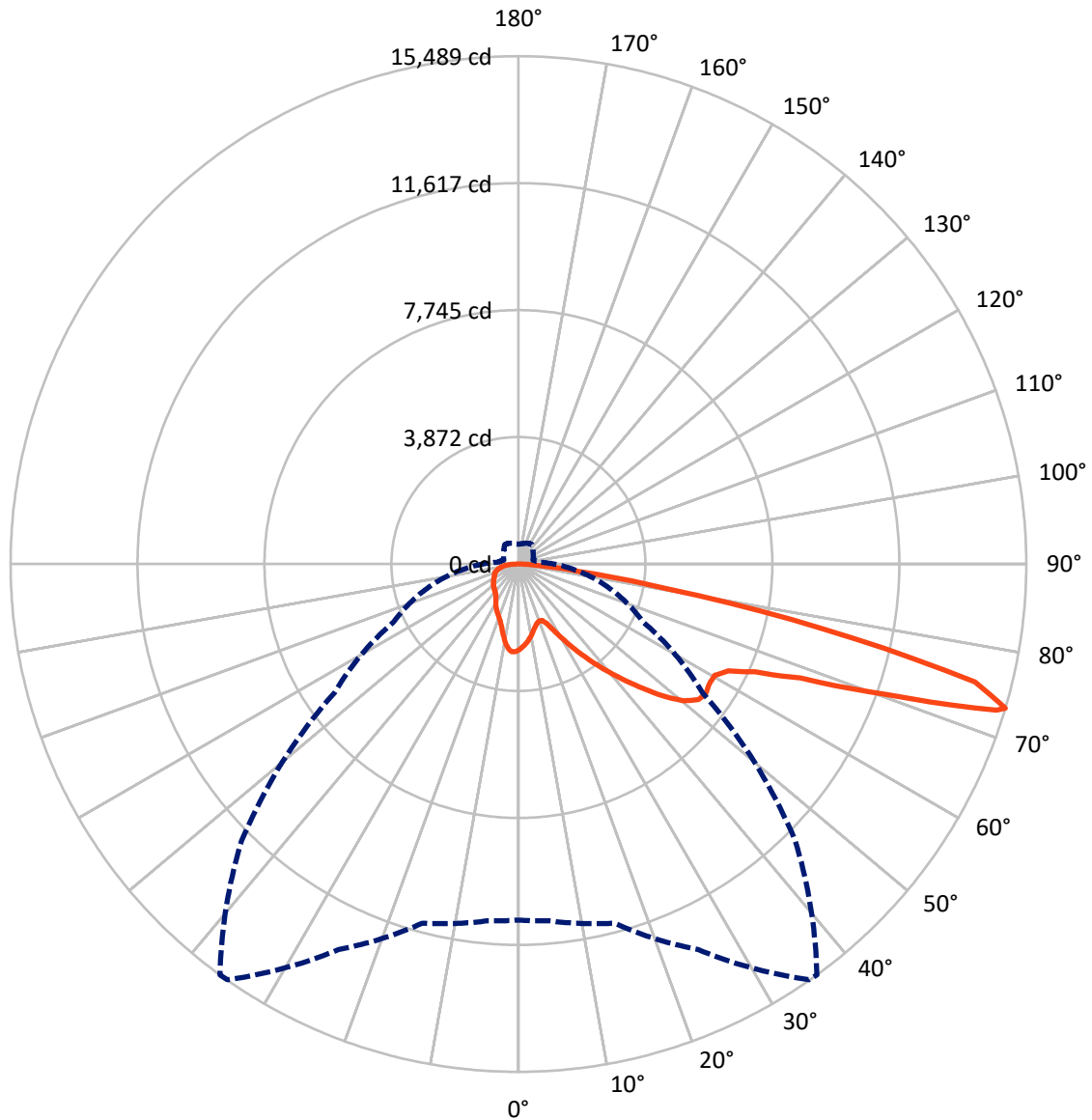
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3328.3	0.0	3328.3
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	13932.0	0.0	13932.0
	% Fixture	80.7	0.0	80.7
Total	Lumens	17260.3	0.0	17260.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.5	1.4
10°-20°	596.4	3.5
20°-30°	956.2	5.5
30°-40°	1581.6	9.2
40°-50°	2447.4	14.2
50°-60°	3276.3	19.0
60°-70°	4279.9	24.8
70°-80°	3495.9	20.3
80°-90°	389.1	2.3
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°	17260.3	100.0
0°-180°	17260.3	100.0



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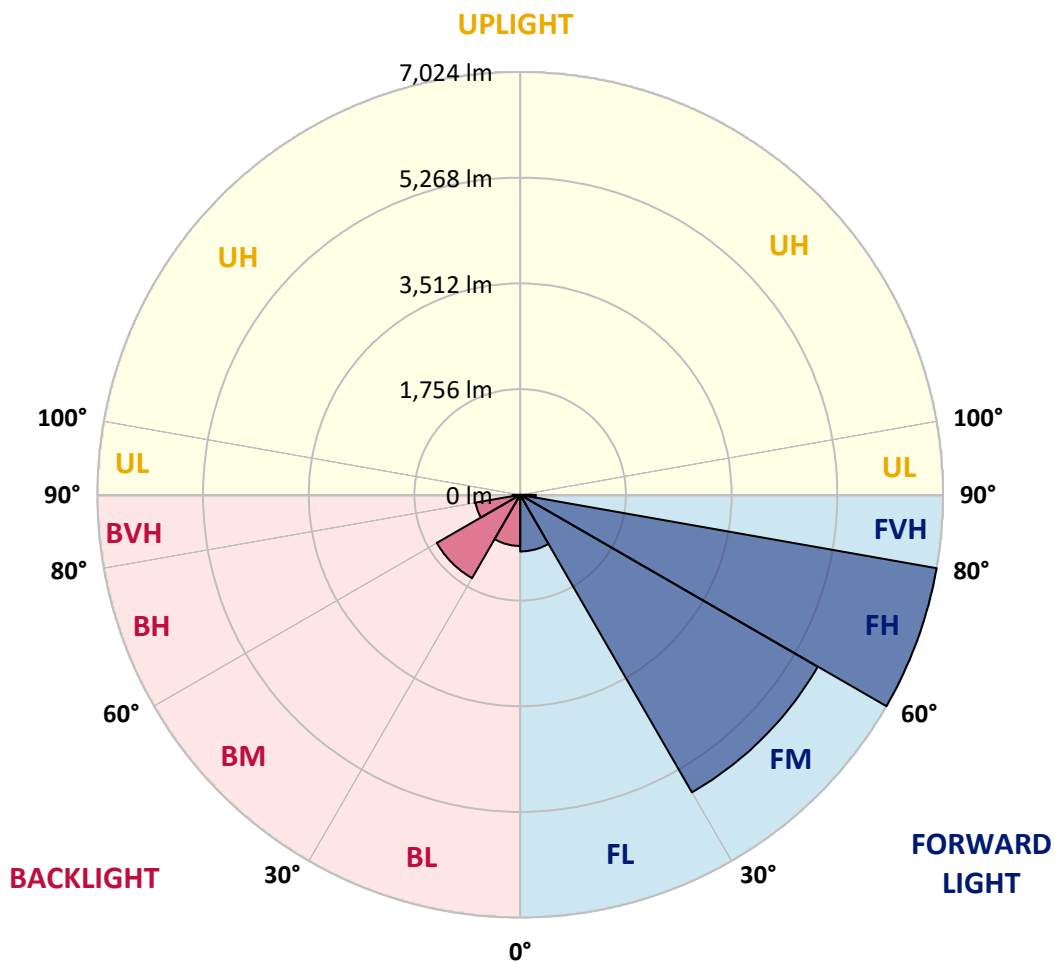
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	940.5	5.4			
FM (30°-60°)	5706.9	33.1			
FH (60°-80°)	7023.7	40.7			G3/7500
FVH (80°-90°)	261.0	1.5			G3/500
BL (0°-30°)	849.6	4.9	B2/1000		
BM (30°-60°)	1598.4	9.3	B2/2500		
BH (60°-80°)	752.1	4.4	B2/1000		G2/1000
BVH (80°-90°)	128.1	0.7			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4
2.5°	2514.6	2521.3	2522.4	2529.9	2529.9	2528.9	2532.2	2545.3	2551.9	2567.3	2580.4
5°	2390.7	2398.4	2401.7	2414.9	2431.4	2432.4	2444.5	2469.7	2493.9	2527.8	2556.2
7.5°	2251.4	2260.2	2268.9	2296.3	2320.5	2322.7	2345.7	2386.3	2418.1	2459.7	2511.3
10°	2116.5	2118.7	2127.5	2162.6	2194.4	2197.8	2230.6	2276.7	2319.5	2377.5	2435.7
12.5°	2005.7	2012.4	2010.1	2036.5	2063.9	2066.1	2109.9	2168.1	2230.6	2296.3	2365.4
15°	1967.4	1966.3	1943.3	1942.1	1954.3	1956.5	1999.2	2067.2	2137.3	2218.5	2307.3
17.5°	1993.7	1985.0	1924.7	1887.3	1879.7	1881.9	1913.7	1988.3	2062.8	2156.0	2262.4
20°	2138.4	2104.5	1963.1	1873.1	1847.9	1847.9	1866.5	1926.9	2009.1	2117.7	2251.4
22.5°	2481.7	2429.0	2127.5	1967.4	1878.5	1869.8	1855.5	1901.6	1992.6	2123.1	2296.3
25°	2913.8	2888.6	2429.0	2218.5	2035.4	2007.0	1912.6	1929.0	2026.7	2182.3	2419.2
27.5°	3314.0	3270.2	2825.0	2583.7	2325.0	2281.1	2081.5	2014.5	2107.9	2292.0	2596.9
30°	3547.6	3518.1	3231.8	3001.5	2693.4	2637.5	2351.3	2183.4	2252.5	2472.9	2849.2
32.5°	3802.2	3784.6	3639.8	3430.4	3092.5	3027.8	2699.9	2458.8	2474.0	2713.2	3153.0
35°	4048.9	4071.8	3989.6	3836.1	3522.4	3462.2	3168.2	2818.4	2747.1	2982.9	3477.5
37.5°	4344.9	4350.4	4298.8	4199.0	3974.3	3925.0	3682.6	3202.3	3044.4	3270.2	3791.1
40°	4936.0	4849.4	4647.7	4568.7	4434.9	4404.2	4127.8	3554.2	3320.7	3565.3	4087.3
42.5°	5575.4	5440.6	5124.7	4995.3	4941.5	4913.0	4498.5	3789.1	3579.4	3860.2	4377.9
45°	6090.9	5981.2	5671.9	5511.8	5518.4	5472.4	4822.0	3998.4	3860.2	4156.4	4702.4
47.5°	6598.6	6415.4	6068.9	6046.0	6122.7	6054.7	5131.3	4207.9	4153.0	4478.8	5027.1
50°	6631.5	6464.8	6324.4	6508.7	6640.4	6555.8	5412.0	4482.1	4456.9	4869.2	5446.1
52.5°	6231.3	6207.1	6420.9	6731.3	6949.6	6873.9	5641.3	4763.9	4767.1	5357.2	5955.9
55°	6085.4	6054.7	6311.3	6692.9	6987.9	6943.0	5812.4	5081.9	5111.5	5949.4	6503.2
57.5°	6331.1	6254.3	6304.8	6620.6	6897.9	6871.7	5990.0	5435.0	5488.7	6631.5	7008.8
60°	7093.1	6936.4	6668.7	6728.0	6901.3	6886.0	6244.4	5828.7	5918.7	7342.1	7329.0
62.5°	8234.9	8057.2	7512.2	7249.0	7210.5	7181.0	6664.3	6312.4	6357.3	7855.4	7142.6
65°	9487.2	9296.4	8648.3	8217.2	7991.3	7927.7	7342.1	6895.7	6614.0	7854.3	6416.6
67.5°	10893.1	10691.4	10045.3	9634.1	9389.7	9281.1	8442.1	7367.4	6530.6	7189.8	5134.5
70°	12333.0	12141.1	11845.1	11988.7	12096.1	11930.6	10174.8	7524.3	5931.9	5636.9	3448.0
72.5°	11568.6	11553.3	11778.1	13140.1	15211.8	15244.6	11905.3	7081.1	4583.0	3350.3	1838.0
73°	10859.2	10923.7	11340.6	12970.2	15478.2	15489.3	11939.4	6851.9	4207.9	2886.4	1614.3
75°	5625.8	6064.5	7610.8	10516.9	14332.3	14383.8	10524.6	5187.3	2508.1	1603.4	1087.8
77.5°	1506.7	1487.1	2452.2	5123.7	9555.2	9487.2	6650.2	2511.3	1201.9	1005.7	763.3
80°	516.5	523.2	834.5	1874.3	4460.2	4619.2	2886.4	1095.6	790.7	700.8	540.7
82.5°	263.3	271.9	436.4	797.2	1865.4	1826.0	928.8	644.9	529.7	425.4	302.6
85°	140.3	144.7	240.1	413.4	684.2	692.0	326.9	344.3	336.7	241.3	149.2
87.5°	69.1	71.2	115.2	182.0	253.3	244.6	114.1	149.2	165.6	136.1	82.3
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°	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4	2614.4
2.5°	2596.9	2596.9	2611.2	2635.3	2652.9	2669.3	2680.3	2697.8	2707.6	2706.6	2705.4
5°	2579.4	2590.4	2618.7	2648.5	2668.1	2681.4	2681.4	2688.9	2688.9	2685.8	2681.4
7.5°	2538.8	2557.5	2599.1	2625.3	2630.9	2616.7	2588.1	2566.2	2538.8	2524.4	2519.0
10°	2474.0	2498.1	2550.8	2563.0	2534.4	2484.0	2414.9	2355.6	2303.0	2278.9	2271.2
12.5°	2410.4	2442.2	2491.5	2472.9	2405.0	2306.3	2199.9	2118.7	2059.5	2036.5	2028.8
15°	2357.8	2396.1	2434.5	2376.5	2258.0	2121.0	2003.6	1927.9	1882.9	1865.4	1861.0
17.5°	2322.7	2367.8	2380.9	2272.4	2107.9	1954.3	1850.1	1800.7	1781.0	1773.3	1771.1
20°	2325.0	2375.4	2343.6	2171.5	1963.1	1808.4	1739.3	1725.0	1725.0	1725.0	1723.9
22.5°	2385.2	2429.0	2328.1	2077.2	1823.7	1685.6	1655.9	1668.1	1676.7	1676.7	1675.7
25°	2510.3	2534.4	2339.1	1986.1	1693.2	1579.2	1580.3	1603.4	1611.0	1611.0	1608.9
27.5°	2701.1	2681.4	2358.9	1885.2	1564.9	1482.7	1498.1	1518.9	1524.3	1521.1	1520.0
30°	2940.2	2861.2	2375.4	1766.7	1444.4	1392.7	1405.8	1418.0	1413.7	1405.8	1404.8
32.5°	3207.8	3044.4	2365.4	1634.0	1337.9	1299.6	1307.3	1313.9	1307.3	1288.6	1288.6
35°	3473.1	3210.0	2311.8	1489.3	1253.5	1209.6	1208.5	1229.4	1228.3	1206.3	1207.4
37.5°	3705.6	3340.4	2207.6	1356.6	1181.1	1143.8	1148.3	1161.4	1167.9	1138.3	1135.1
40°	3908.4	3430.4	2060.6	1243.7	1123.1	1125.1	1113.1	1092.2	1084.7	1071.5	1069.3
42.5°	4099.3	3492.9	1904.9	1149.3	1093.3	1118.6	1078.1	1028.6	1007.8	1019.8	1027.7
45°	4286.8	3563.0	1754.7	1071.5	1056.0	1098.8	1042.9	988.0	964.1	969.5	977.1
47.5°	4516.0	3660.7	1573.7	988.0	999.0	1062.7	1021.1	961.7	925.6	903.7	897.0
50°	4817.6	3802.2	1339.1	898.1	938.8	1023.2	1002.4	923.4	883.9	840.0	829.0
52.5°	5194.9	3936.0	1102.1	825.8	889.4	989.3	971.6	890.5	842.3	789.6	780.8
55°	5571.0	3954.6	898.1	763.3	833.4	943.1	934.3	864.2	796.2	753.4	744.7
57.5°	5834.2	3778.0	761.0	710.6	779.6	886.1	900.3	832.4	757.8	724.9	719.5
60°	5838.7	3355.8	677.7	675.5	739.1	836.7	865.2	795.1	733.6	711.7	707.3
62.5°	5374.6	2704.3	624.1	649.3	709.5	796.2	838.9	774.2	728.2	719.5	715.1
65°	4505.1	1998.1	581.3	625.1	682.2	762.2	817.0	767.6	726.0	722.6	719.5
67.5°	3326.2	1369.7	545.0	594.4	651.5	727.1	796.2	757.8	712.9	726.0	721.6
70°	2092.4	914.7	511.0	559.3	610.8	686.6	768.8	740.3	696.4	688.7	674.4
72.5°	1181.1	661.3	470.4	514.3	558.1	632.8	731.5	710.6	659.0	628.4	614.1
73°	1067.0	626.2	460.7	503.4	546.1	621.7	722.6	701.8	648.1	614.1	601.0
75°	780.8	512.2	415.6	458.5	495.7	571.3	681.0	658.0	599.9	559.3	550.5
77.5°	565.9	394.7	357.5	396.0	428.9	501.2	618.6	592.3	535.2	513.2	504.5
80°	408.0	299.3	296.1	333.5	361.8	435.4	551.6	524.3	469.4	534.1	519.8
82.5°	243.5	191.9	217.1	258.8	288.4	365.3	479.2	447.4	394.7	399.1	340.0
85°	116.2	108.5	134.8	170.0	190.8	250.1	399.1	374.0	315.8	258.8	253.3
87.5°	51.6	49.3	64.7	75.6	102.0	150.2	273.1	242.4	229.2	137.1	107.4
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)