

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: P196357

Luminaire Tested: **NAV-AF-01-D-UNV-T4FT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196357
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-01-D-UNV-T4FT
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6298.3 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 59
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

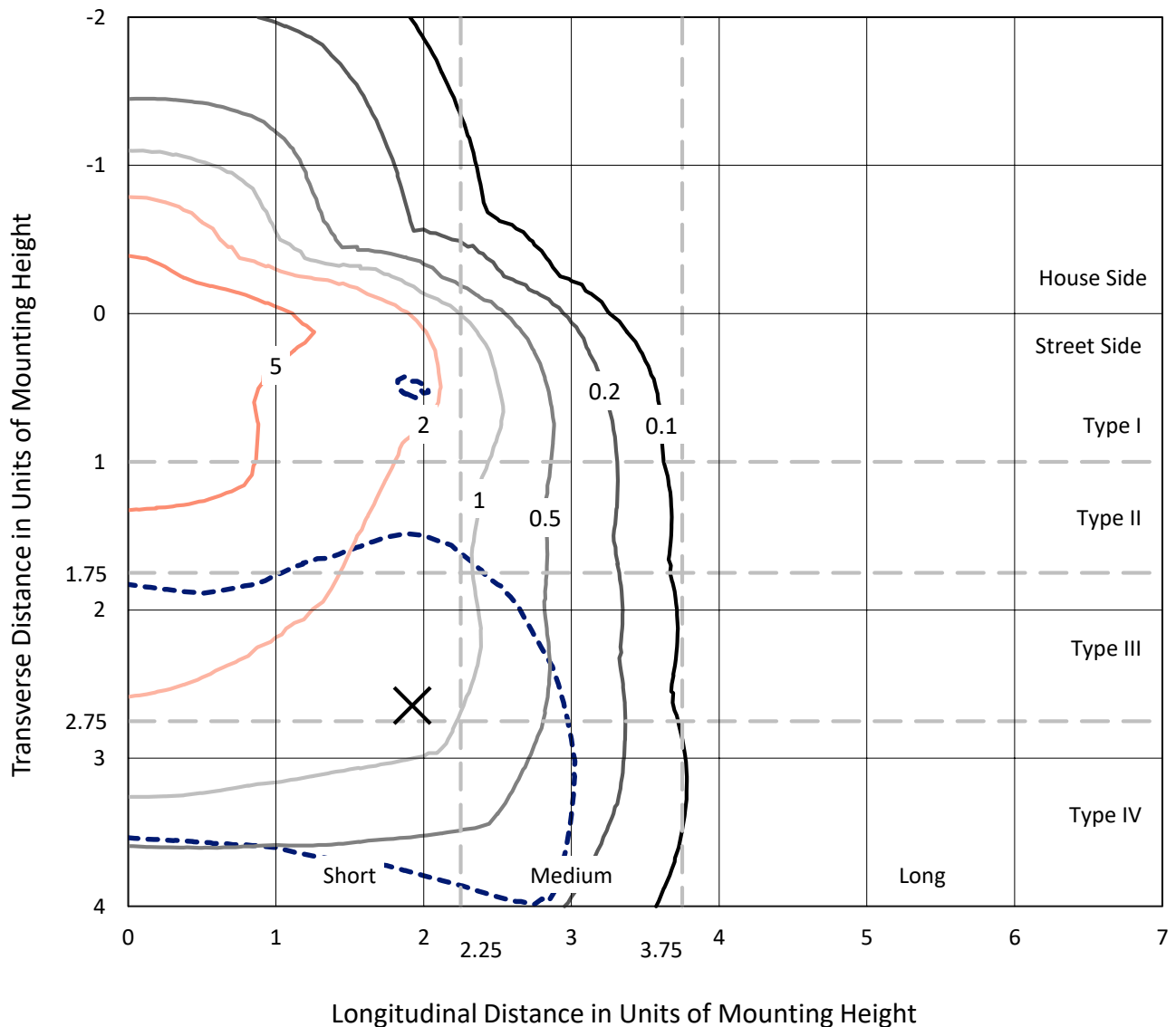


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Iso-Footcandle Lines of Horizontal Illumination

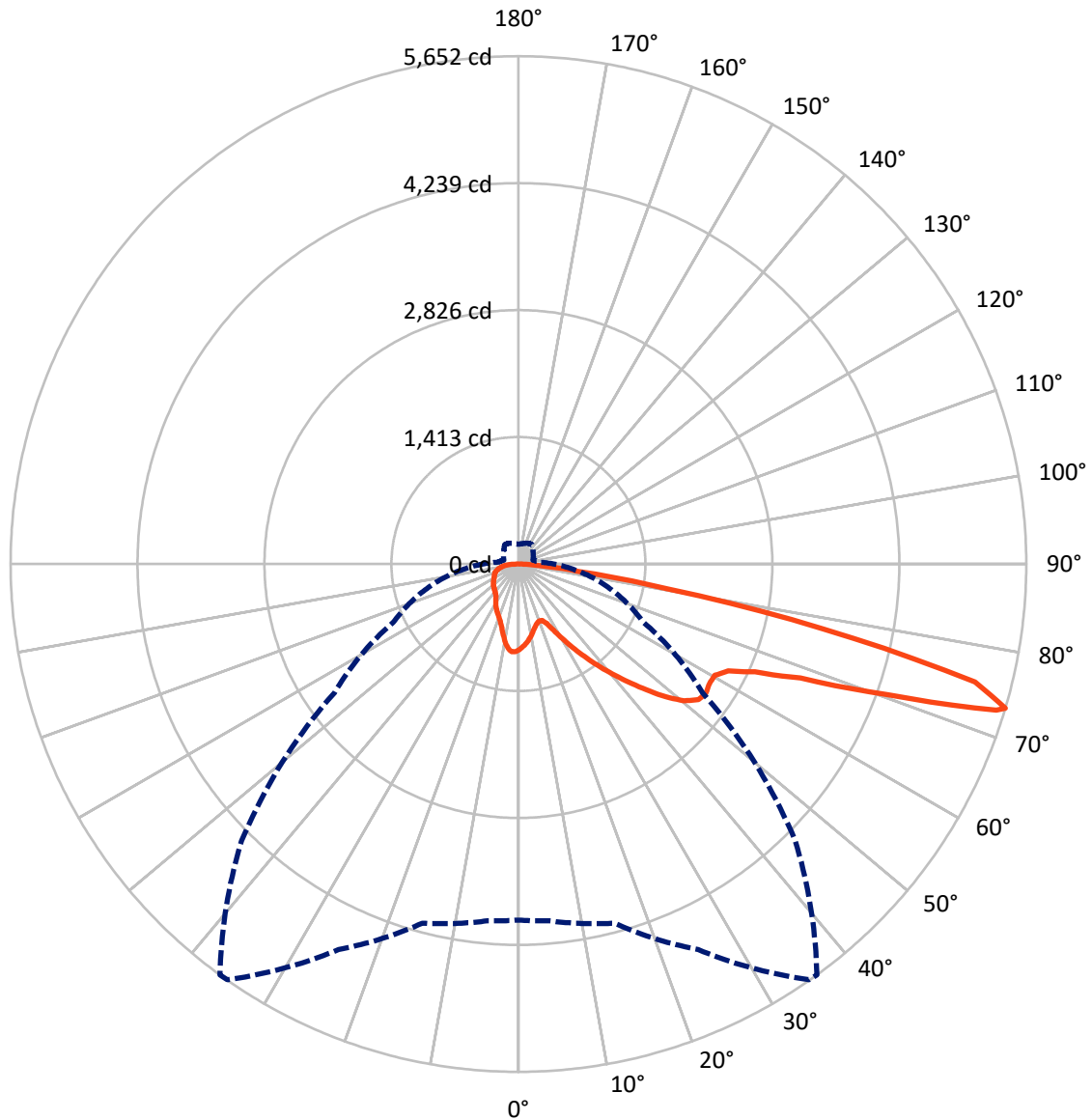
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 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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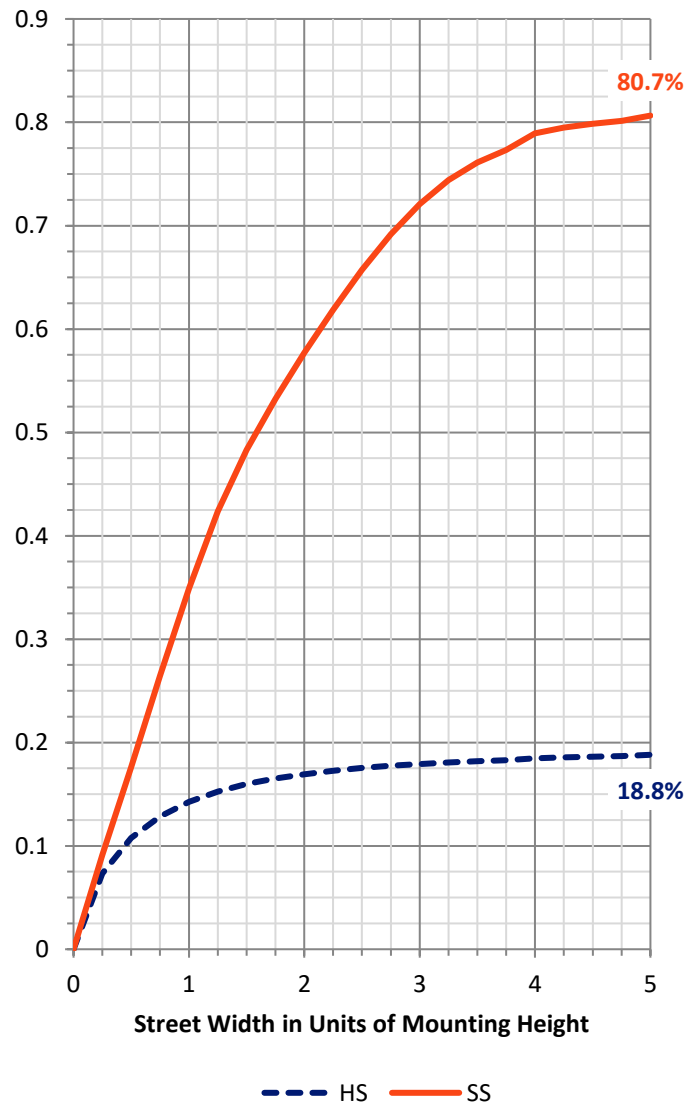
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1214.5	0.0	1214.5
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	5083.8	0.0	5083.8
	% Fixture	80.7	0.0	80.7
Total	Lumens	6298.3	0.0	6298.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.7	1.4
10°-20°	217.6	3.5
20°-30°	348.9	5.5
30°-40°	577.1	9.2
40°-50°	893.1	14.2
50°-60°	1195.5	19.0
60°-70°	1561.7	24.8
70°-80°	1275.7	20.3
80°-90°	142.0	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°	6298.3	100.0
0°-180°	6298.3	100.0



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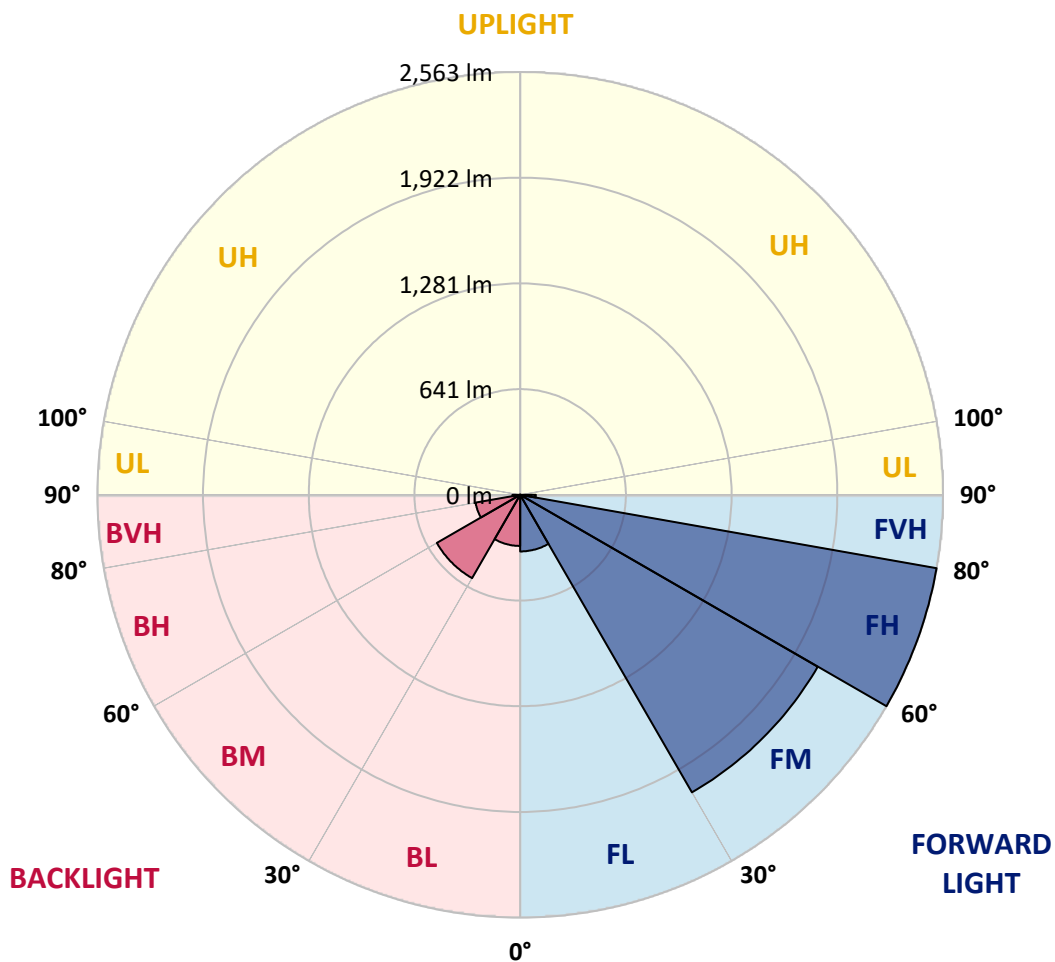
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	343.2	5.4			
FM (30°-60°)	2082.4	33.1			
FH (60°-80°)	2562.9	40.7			G2/5000
FVH (80°-90°)	95.2	1.5			G1/100
BL (0°-30°)	310.0	4.9	B1/500		
BM (30°-60°)	583.3	9.3	B1/1000		
BH (60°-80°)	274.5	4.4	B1/500		G1/500
BVH (80°-90°)	46.8	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	917.6	920.0	920.3	923.2	923.2	922.8	924.0	928.8	931.2	936.8	941.6
5°	872.4	875.1	876.4	881.2	887.2	887.6	892.0	901.2	910.0	922.4	932.8
7.5°	821.5	824.8	828.0	838.0	846.8	847.5	856.0	870.7	882.4	897.5	916.4
10°	772.3	773.1	776.3	789.1	800.8	802.0	814.0	830.7	846.4	867.6	888.7
12.5°	731.9	734.3	733.6	743.1	753.1	753.9	770.0	791.2	814.0	838.0	863.2
15°	717.9	717.5	709.1	708.7	713.1	713.9	729.5	754.3	779.9	809.6	842.0
17.5°	727.5	724.4	702.3	688.7	685.9	686.7	698.3	725.5	752.7	786.8	825.5
20°	780.3	767.9	716.3	683.5	674.3	674.3	681.1	703.1	733.1	772.7	821.5
22.5°	905.6	886.4	776.3	717.9	685.5	682.3	677.1	693.9	727.1	774.8	838.0
25°	1063.3	1054.0	886.4	809.6	742.8	732.3	697.9	703.9	739.5	796.4	882.8
27.5°	1209.3	1193.3	1030.8	942.9	848.3	832.4	759.5	735.1	769.2	836.4	947.6
30°	1294.5	1283.8	1179.3	1095.3	982.9	962.4	857.9	796.8	821.9	902.3	1039.6
32.5°	1387.4	1381.0	1328.2	1251.8	1128.5	1104.9	985.2	897.2	902.8	990.0	1150.5
35°	1477.4	1485.8	1455.9	1399.8	1285.3	1263.3	1156.1	1028.5	1002.4	1088.4	1269.0
37.5°	1585.5	1587.5	1568.7	1532.3	1450.2	1432.2	1343.7	1168.5	1110.9	1193.3	1383.4
40°	1801.2	1769.6	1696.0	1667.1	1618.3	1607.1	1506.3	1297.0	1211.7	1301.0	1491.5
42.5°	2034.4	1985.2	1870.0	1822.8	1803.2	1792.7	1641.5	1382.6	1306.2	1408.6	1597.4
45°	2222.6	2182.6	2069.7	2011.2	2013.7	1996.9	1759.6	1459.0	1408.6	1516.6	1715.9
47.5°	2407.8	2341.0	2214.6	2206.2	2234.1	2209.4	1872.4	1535.4	1515.5	1634.3	1834.4
50°	2419.8	2359.0	2307.8	2375.0	2423.1	2392.3	1974.8	1635.5	1626.3	1776.8	1987.3
52.5°	2273.8	2265.0	2343.0	2456.2	2535.9	2508.3	2058.5	1738.3	1739.5	1954.9	2173.4
55°	2220.5	2209.4	2303.0	2442.3	2549.9	2533.4	2120.9	1854.4	1865.2	2170.9	2373.0
57.5°	2310.2	2282.2	2300.6	2415.8	2517.1	2507.5	2185.7	1983.3	2002.8	2419.8	2557.5
60°	2588.3	2531.1	2433.5	2455.1	2518.3	2512.7	2278.6	2126.9	2159.8	2679.1	2674.3
62.5°	3004.9	2940.1	2741.2	2645.1	2631.1	2620.3	2431.9	2303.4	2319.8	2866.4	2606.3
65°	3461.9	3392.3	3155.8	2998.5	2916.0	2892.8	2679.1	2516.3	2413.4	2866.0	2341.4
67.5°	3974.9	3901.3	3665.5	3515.5	3426.3	3386.7	3080.5	2688.3	2383.1	2623.6	1873.6
70°	4500.4	4430.3	4322.3	4374.6	4413.9	4353.5	3712.8	2745.6	2164.6	2056.8	1258.1
72.5°	4221.4	4215.8	4297.8	4794.9	5550.8	5562.8	4344.3	2583.9	1672.3	1222.5	670.6
73°	3962.5	3986.1	4138.1	4732.9	5648.0	5652.0	4356.6	2500.3	1535.4	1053.2	589.0
75°	2052.9	2212.9	2777.2	3837.7	5229.8	5248.7	3840.5	1892.8	915.2	585.0	397.0
77.5°	549.8	542.7	894.8	1869.6	3486.7	3461.9	2426.6	916.4	438.5	366.9	278.5
80°	188.5	190.9	304.5	683.9	1627.5	1685.5	1053.2	399.8	288.6	255.7	197.3
82.5°	96.1	99.2	159.3	290.9	680.7	666.2	338.9	235.3	193.2	155.3	110.5
85°	51.2	52.8	87.7	150.9	249.7	252.5	119.3	125.6	122.9	88.1	54.4
87.5°	25.2	26.0	42.0	66.4	92.5	89.2	41.6	54.4	60.5	49.6	30.0
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°	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0	954.0
2.5°	947.6	947.6	952.8	961.6	968.0	974.1	978.0	984.4	988.1	987.7	987.2
5°	941.2	945.2	955.6	966.4	973.6	978.5	978.5	981.2	981.2	980.0	978.5
7.5°	926.4	933.2	948.4	958.0	960.0	954.8	944.4	936.4	926.4	921.2	919.2
10°	902.8	911.6	930.8	935.2	924.7	906.4	881.2	859.6	840.4	831.6	828.8
12.5°	879.5	891.2	909.2	902.3	877.6	841.6	802.7	773.1	751.6	743.1	740.3
15°	860.4	874.4	888.4	867.2	824.0	774.0	731.1	703.5	687.1	680.7	679.1
17.5°	847.5	864.0	868.8	829.2	769.2	713.1	675.0	657.0	649.9	647.1	646.3
20°	848.3	866.7	855.2	792.4	716.3	659.9	634.6	629.4	629.4	629.4	629.1
22.5°	870.3	886.4	849.6	757.9	665.5	615.1	604.3	608.7	611.8	611.8	611.4
25°	916.0	924.7	853.6	724.8	617.9	576.2	576.6	585.0	587.9	587.9	587.1
27.5°	985.6	978.5	860.8	687.9	571.0	541.0	546.7	554.2	556.3	555.1	554.6
30°	1072.9	1044.0	866.7	644.7	527.0	508.2	513.0	517.4	515.8	513.0	512.6
32.5°	1170.5	1110.9	863.2	596.3	488.3	474.2	477.0	479.5	477.0	470.3	470.3
35°	1267.3	1171.3	843.5	543.4	457.4	441.4	441.0	448.6	448.2	440.2	440.6
37.5°	1352.1	1218.9	805.6	495.0	431.0	417.4	419.0	423.8	426.2	415.4	414.2
40°	1426.2	1251.8	752.0	453.8	409.8	410.6	406.2	398.5	395.8	391.0	390.2
42.5°	1495.9	1274.6	695.1	419.4	399.0	408.2	393.3	375.3	367.8	372.1	374.9
45°	1564.3	1300.2	640.3	391.0	385.3	401.0	380.5	360.6	351.8	353.7	356.6
47.5°	1647.9	1335.8	574.3	360.6	364.6	387.8	372.6	351.0	337.8	329.7	327.3
50°	1757.9	1387.4	488.6	327.8	342.6	373.4	365.8	337.0	322.5	306.6	302.5
52.5°	1895.6	1436.2	402.1	301.4	324.6	361.0	354.6	324.9	307.3	288.2	284.9
55°	2032.9	1443.0	327.8	278.5	304.1	344.1	340.9	315.4	290.5	275.0	271.7
57.5°	2129.0	1378.6	277.7	259.3	284.5	323.4	328.6	303.7	276.5	264.5	262.5
60°	2130.5	1224.6	247.3	246.5	269.8	305.4	315.8	290.1	267.7	259.7	258.1
62.5°	1961.2	986.8	227.7	236.9	258.9	290.5	306.2	282.5	265.8	262.5	261.0
65°	1643.9	729.2	212.1	228.1	248.9	278.1	298.1	280.1	264.9	263.7	262.5
67.5°	1213.7	499.8	198.9	216.9	237.7	265.4	290.5	276.5	260.1	264.9	263.3
70°	763.5	333.8	186.5	204.1	222.9	250.5	280.5	270.2	254.1	251.3	246.1
72.5°	431.0	241.3	171.7	187.7	203.7	230.9	266.9	259.3	240.5	229.3	224.1
73°	389.3	228.5	168.1	183.7	199.3	226.9	263.7	256.1	236.5	224.1	219.3
75°	284.9	186.9	151.7	167.3	180.9	208.5	248.5	240.1	218.9	204.1	200.9
77.5°	206.5	144.0	130.4	144.4	156.5	182.9	225.7	216.0	195.3	187.3	184.0
80°	148.8	109.3	108.0	121.6	132.1	158.9	201.3	191.3	171.2	194.9	189.7
82.5°	88.8	70.1	79.3	94.4	105.3	133.3	174.9	163.3	144.0	145.7	124.1
85°	42.5	39.6	49.2	62.0	69.7	91.2	145.7	136.5	115.3	94.4	92.5
87.5°	18.8	18.0	23.6	27.6	37.2	54.8	99.6	88.5	83.7	50.0	39.2
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)