

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: P270398

Luminaire Tested: **NAV-AF-02-D-UNV-T4W-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270398
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7027-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 2700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6890 lumens
Efficiency: N/A
Efficacy: 104.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

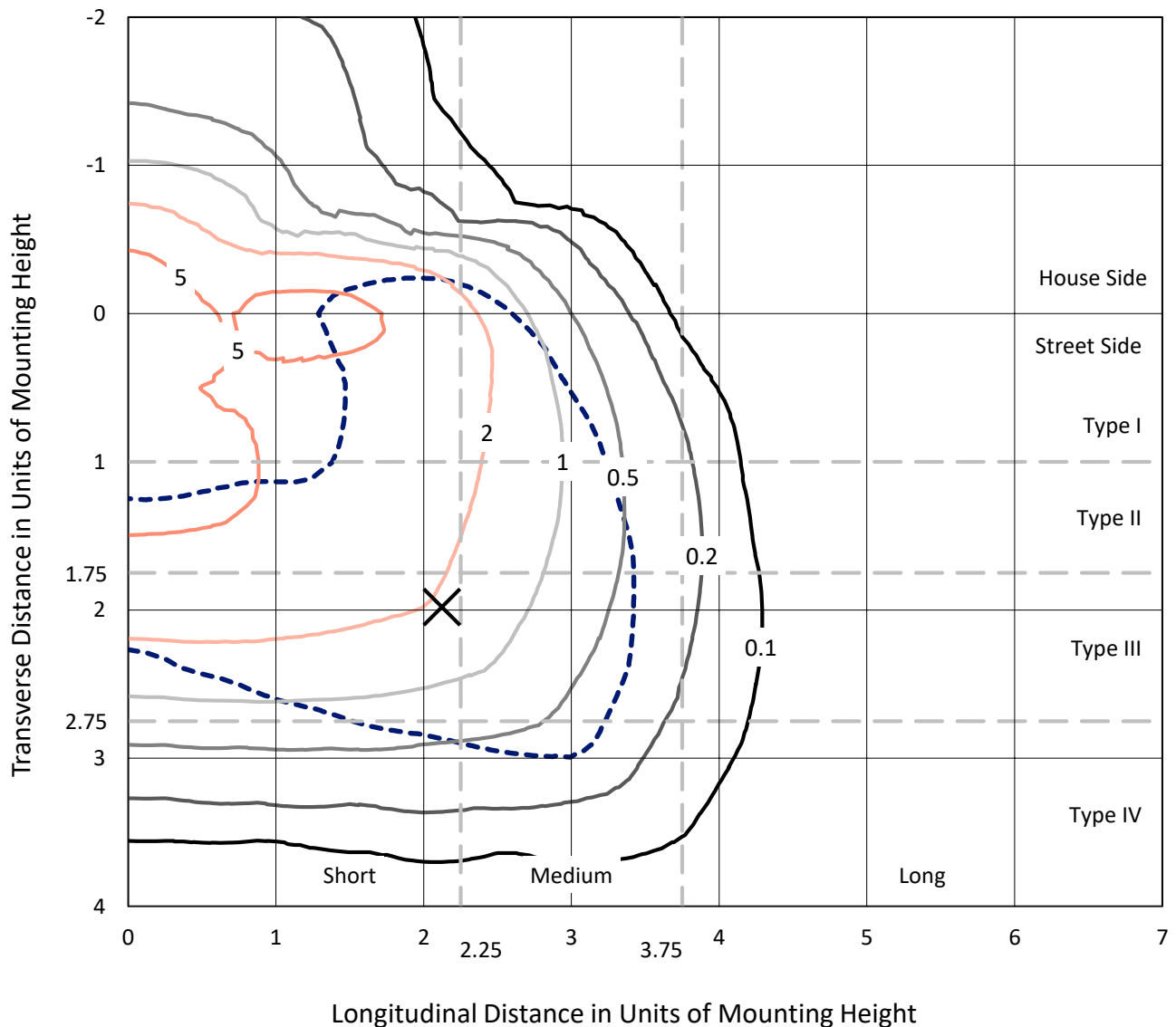
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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 CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7027-600

Iso-Footcandle Lines of Horizontal Illumination

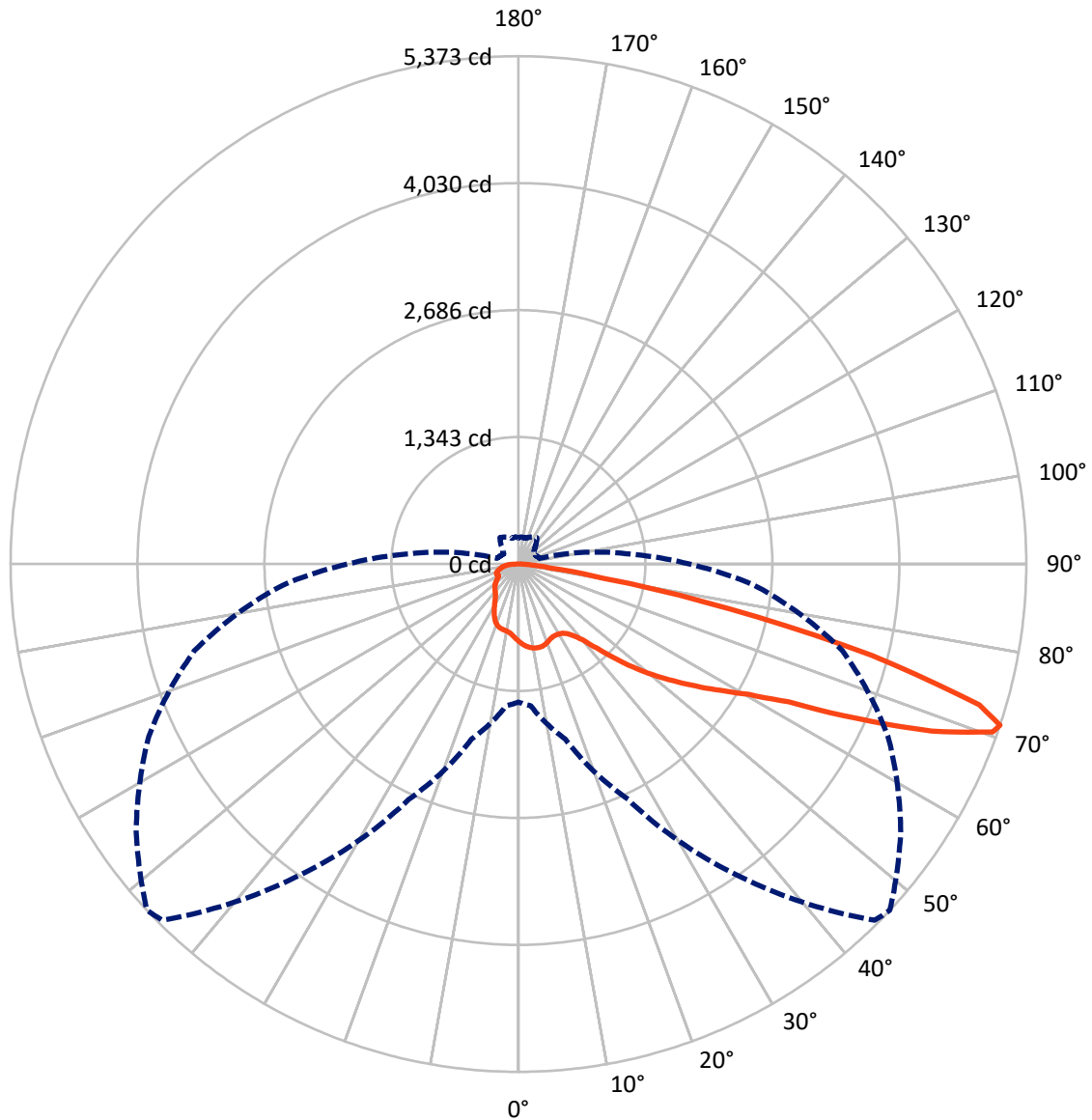
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.4 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P270398
CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7027-600

Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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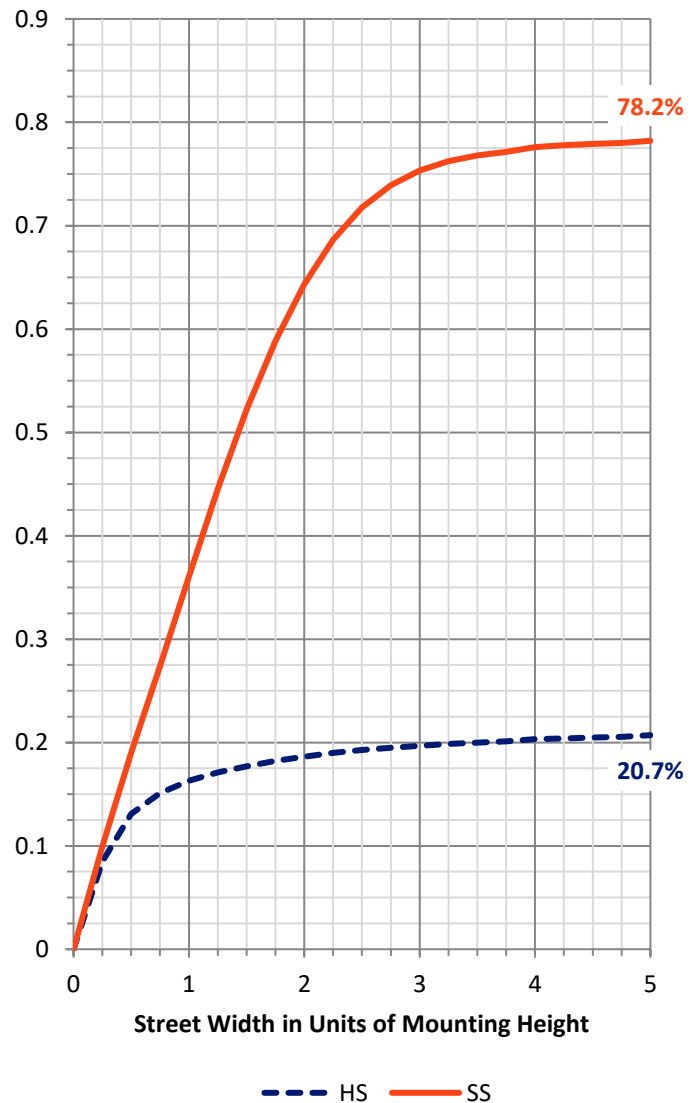
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1476.6	0.0	1476.6
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	5413.4	0.0	5413.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	6890.0	0.0	6890.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	1.1
10°-20°	228.9	3.3
20°-30°	340.1	4.9
30°-40°	488.3	7.1
40°-50°	865.8	12.6
50°-60°	1481.5	21.5
60°-70°	2103.2	30.5
70°-80°	1151.9	16.7
80°-90°	152.1	2.2
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°	6890.0	100.0
0°-180°	6890.0	100.0

Coefficient of Utilization



REPORT NUMBER: P270398

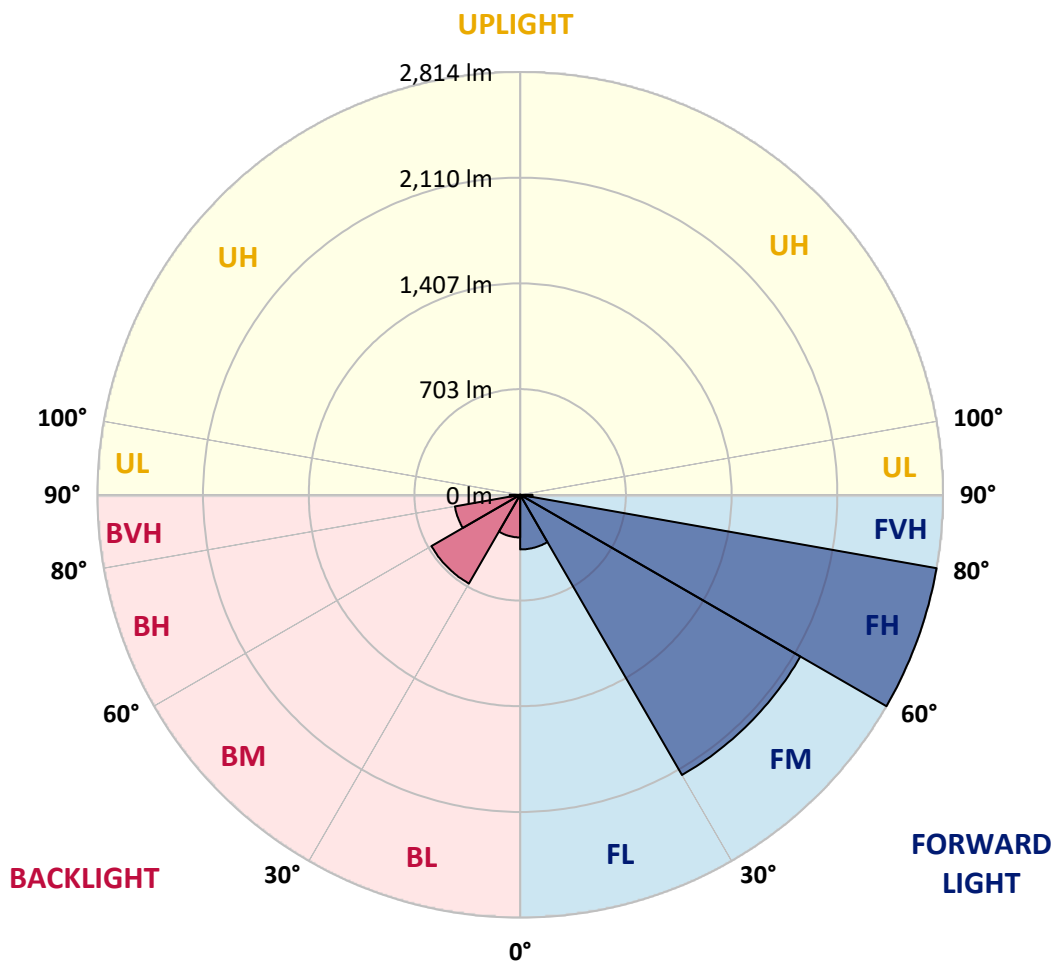
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	363.6	5.3			
FM	(30°-60°)	2153.3	31.3			
FH	(60°-80°)	2813.9	40.8			G2/5000
FVH	(80°-90°)	82.5	1.2			G1/100
BL	(0°-30°)	283.6	4.1	B1/500		
BM	(30°-60°)	682.3	9.9	B1/1000		
BH	(60°-80°)	441.2	6.4	B1/500		G1/500
BVH	(80°-90°)	69.6	1.0			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





REPORT NUMBER: P270398

CATALOG NUMBER: NAV-AF-02-D-UNV-T4W-7027-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3
2.5°	869.3	867.6	868.4	865.3	857.7	849.6	849.6	841.3	832.3	823.3	813.5
5°	923.4	920.8	918.4	908.6	894.0	877.4	874.7	857.7	839.5	821.1	803.3
7.5°	968.5	965.8	959.1	941.2	919.9	895.3	892.0	869.7	845.7	820.2	795.2
10°	1000.6	998.8	985.9	963.2	938.1	909.1	903.8	881.0	852.4	820.7	789.0
12.5°	1018.5	1015.9	1000.2	973.4	943.8	914.5	909.1	887.2	854.6	819.9	782.8
15°	1011.3	1010.1	995.2	968.1	938.5	913.0	908.6	886.3	853.3	816.6	776.9
17.5°	980.9	984.2	972.4	945.6	921.7	903.8	898.8	877.9	846.6	809.1	768.1
20°	939.0	942.6	936.8	909.5	895.7	884.1	881.3	864.3	835.5	798.0	757.4
22.5°	894.4	897.4	897.9	872.4	868.0	863.5	861.4	849.3	825.6	791.1	750.2
25°	863.5	867.1	868.0	845.7	848.4	849.6	849.3	840.8	823.7	791.1	751.1
27.5°	855.5	857.3	856.4	835.9	840.8	848.4	848.8	847.0	830.9	800.1	763.5
30°	883.3	884.1	873.0	842.2	847.0	856.9	857.3	856.4	846.2	823.3	791.6
32.5°	1002.9	1002.0	963.5	884.1	867.1	870.6	872.1	880.1	881.0	861.7	832.3
35°	1185.0	1184.5	1139.9	1004.1	924.3	905.5	907.3	919.9	931.0	918.0	901.0
37.5°	1385.5	1386.9	1359.7	1175.6	1047.6	969.5	967.6	976.9	997.1	1001.5	1003.8
40°	1607.8	1614.6	1613.3	1372.6	1220.3	1078.3	1060.4	1049.7	1088.6	1113.1	1144.8
42.5°	1861.9	1860.1	1861.0	1588.7	1417.6	1249.7	1216.8	1166.7	1211.9	1254.3	1323.9
45°	2080.3	2087.4	2092.8	1818.6	1638.7	1445.8	1412.2	1321.1	1361.8	1425.3	1531.5
47.5°	2299.9	2287.4	2297.2	2074.5	1884.7	1669.5	1626.2	1503.4	1541.3	1630.7	1792.3
50°	2555.8	2550.0	2505.4	2408.4	2182.1	1896.3	1839.5	1693.6	1749.0	1868.1	2114.3
52.5°	2785.4	2754.1	2719.2	2671.0	2474.6	2125.7	2054.0	1891.4	1993.2	2141.0	2513.8
55°	2869.2	2848.3	2890.2	2952.6	2783.9	2359.8	2279.4	2122.2	2268.7	2453.1	2984.0
57.5°	2958.6	2965.7	3060.3	3186.6	3076.9	2609.3	2522.4	2395.5	2570.9	2802.3	3509.5
60°	3003.3	3031.8	3220.7	3457.8	3355.4	2883.1	2799.6	2709.4	2906.2	3188.1	4033.7
62.5°	3010.8	3049.1	3316.6	3552.8	3739.0	3302.3	3206.0	3108.1	3325.2	3614.5	4413.3
65°	2871.5	2930.5	3308.2	3669.8	4088.6	4002.8	3941.8	3771.2	3886.0	3989.9	4478.1
67.5°	2462.1	2526.4	2980.8	3621.5	4369.0	4729.8	4718.2	4466.5	4319.1	4135.1	3997.9
70°	1807.0	1858.9	2295.4	3096.1	4246.6	5300.4	5321.0	4917.0	4440.1	3827.0	2972.9
71°	1461.5	1506.1	1917.7	2748.6	4008.2	5330.0	5372.9	4937.1	4314.1	3548.8	2488.8
72.5°	909.5	934.5	1273.4	2074.5	3451.5	5026.2	5098.6	4679.8	3917.7	2999.6	1759.2
75°	343.3	353.2	472.4	915.0	2060.2	3776.0	3863.6	3536.7	2752.2	1712.3	736.3
77.5°	184.4	189.4	234.4	380.4	825.6	2164.6	2277.2	2017.4	1320.2	599.2	300.9
80°	123.6	126.8	162.1	225.5	379.5	824.3	918.0	809.9	494.2	342.1	214.3
82.5°	79.9	81.7	110.3	148.2	245.1	289.8	330.8	345.6	308.6	245.1	129.4
85°	52.7	54.0	72.9	94.6	151.9	142.9	146.5	191.6	210.4	161.7	66.0
87.5°	30.4	31.3	43.7	48.7	68.4	53.5	58.0	91.1	125.0	105.5	38.0
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°	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3	819.3
2.5°	809.1	805.5	797.4	792.6	790.2	789.4	788.5	790.2	790.2	789.4	787.6
5°	794.3	787.6	774.2	764.8	760.0	758.6	760.3	762.7	764.0	764.0	762.7
7.5°	783.6	773.8	756.0	743.0	735.4	733.1	738.0	746.1	751.4	754.1	754.5
10°	774.7	761.4	741.6	728.3	722.0	721.1	727.4	737.6	748.7	753.7	754.5
12.5°	766.7	751.4	730.1	717.6	713.1	715.3	723.8	733.1	746.1	753.3	753.7
15°	759.1	743.4	720.7	707.8	706.8	710.4	718.5	726.0	735.8	744.8	744.8
17.5°	750.2	733.1	709.5	697.4	697.4	700.6	705.9	709.9	716.2	724.8	724.3
20°	739.5	722.0	698.0	685.3	682.7	680.9	680.9	681.9	687.2	694.7	696.0
22.5°	731.4	713.6	688.0	672.9	660.9	649.3	644.4	642.5	647.4	654.5	656.3
25°	731.4	713.6	685.0	659.4	630.0	607.8	598.4	595.7	600.5	607.3	609.9
27.5°	743.4	725.7	692.1	647.4	593.4	557.7	546.4	544.4	548.8	554.2	556.8
30°	771.6	754.1	712.6	633.6	552.7	505.8	493.3	491.2	493.3	495.7	498.7
32.5°	818.4	803.8	746.1	621.1	511.7	459.0	443.9	440.3	441.2	441.5	444.3
35°	894.8	888.2	790.8	606.4	472.9	420.5	405.0	397.8	397.4	399.7	402.7
37.5°	1011.9	1015.9	848.4	584.9	440.7	393.4	377.7	370.6	367.0	371.4	375.0
40°	1177.0	1186.3	915.0	556.0	414.4	377.3	360.8	354.1	349.3	347.9	349.6
42.5°	1391.7	1389.0	982.7	518.9	385.8	366.6	349.3	342.1	334.0	323.7	321.5
45°	1646.2	1607.8	1039.5	473.2	353.2	356.3	338.4	328.6	316.2	300.9	299.1
47.5°	1946.7	1840.9	1074.4	424.5	322.9	343.0	326.4	311.3	292.8	283.1	281.8
50°	2308.9	2113.7	1098.8	375.0	295.6	325.9	309.5	289.3	271.5	268.9	268.4
52.5°	2737.6	2435.7	1129.2	330.3	274.2	304.0	292.5	271.9	257.6	259.0	259.0
55°	3193.5	2768.8	1130.1	295.2	255.4	278.7	279.9	263.5	252.2	256.7	258.1
57.5°	3609.1	3059.8	1041.2	270.1	237.5	258.5	275.9	266.5	258.1	273.8	275.1
60°	3971.6	3284.1	850.2	249.5	222.8	250.9	284.9	285.8	284.0	326.4	329.5
62.5°	4104.3	3286.3	603.8	232.2	214.8	255.4	303.6	305.0	305.0	344.3	350.1
65°	3918.5	3012.6	401.8	221.9	209.5	265.2	318.8	313.0	299.1	326.4	320.2
67.5°	3263.9	2345.0	293.7	215.2	201.8	265.7	332.3	317.6	293.7	317.0	306.3
70°	2243.2	1492.3	246.0	208.9	192.9	254.1	339.3	316.2	285.8	295.6	281.3
71°	1805.7	1190.9	233.5	206.7	189.4	247.4	340.3	314.3	281.8	287.9	275.1
72.5°	1189.4	733.6	218.4	201.8	184.0	235.7	338.0	310.4	276.4	276.9	268.4
75°	469.3	304.0	196.5	190.7	168.8	217.0	328.2	301.8	266.1	257.2	253.6
77.5°	237.2	198.6	172.8	175.0	150.9	197.7	314.3	287.9	251.9	239.8	237.2
80°	173.3	150.9	147.9	151.9	130.9	179.0	296.9	269.2	233.5	246.0	240.7
82.5°	105.5	91.9	115.6	125.5	109.5	159.9	276.4	247.4	210.4	193.8	187.6
85°	50.0	54.0	83.5	92.4	80.8	127.6	252.8	223.3	183.6	158.6	161.2
87.5°	24.6	30.0	47.8	55.3	53.1	93.8	190.7	173.3	144.6	119.3	116.5
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)