

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: P196333

Luminaire Tested: **NAV-AF-01-D-UNV-T3R**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196333
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6356.6 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B1 - U0 - G2

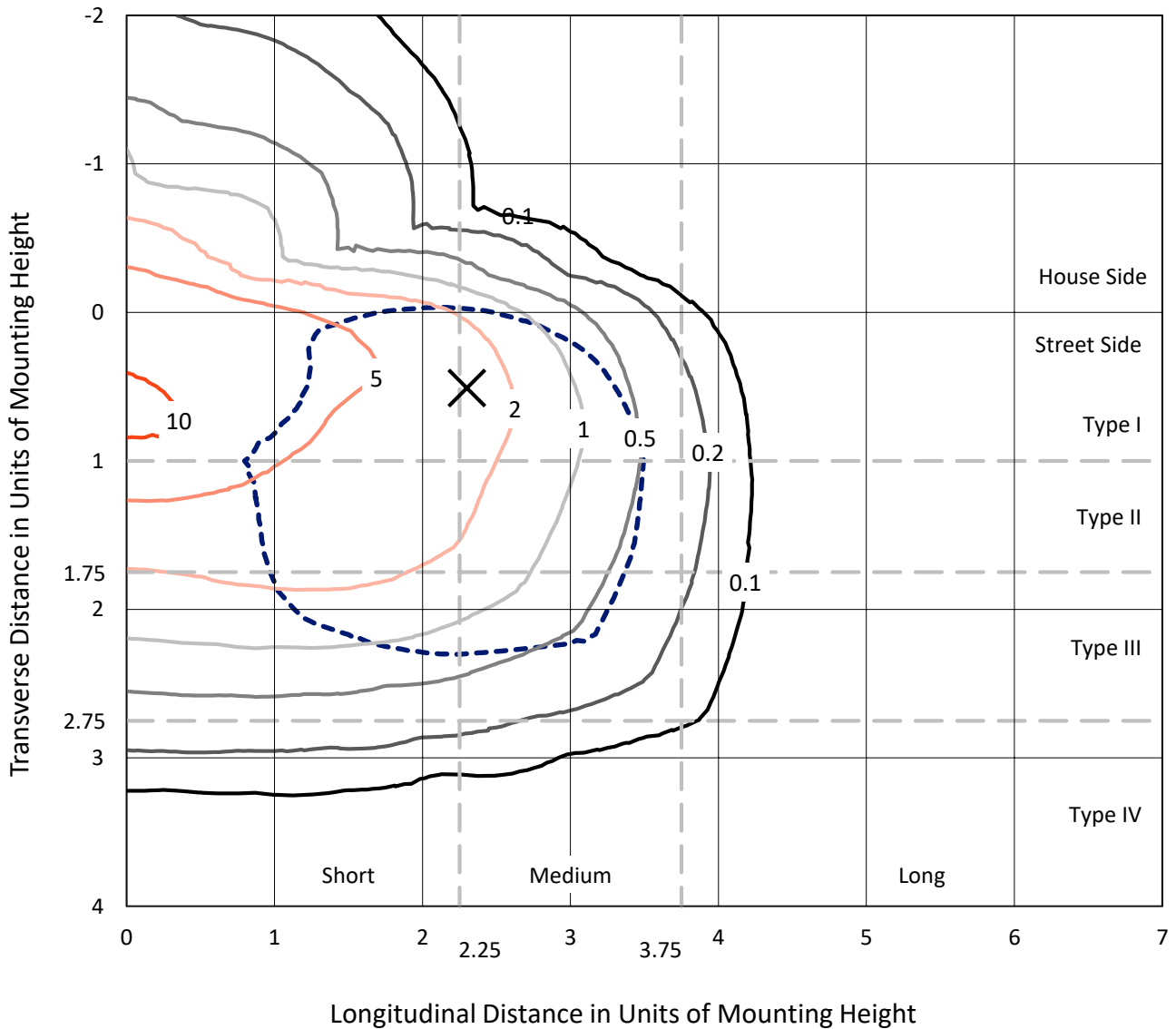
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

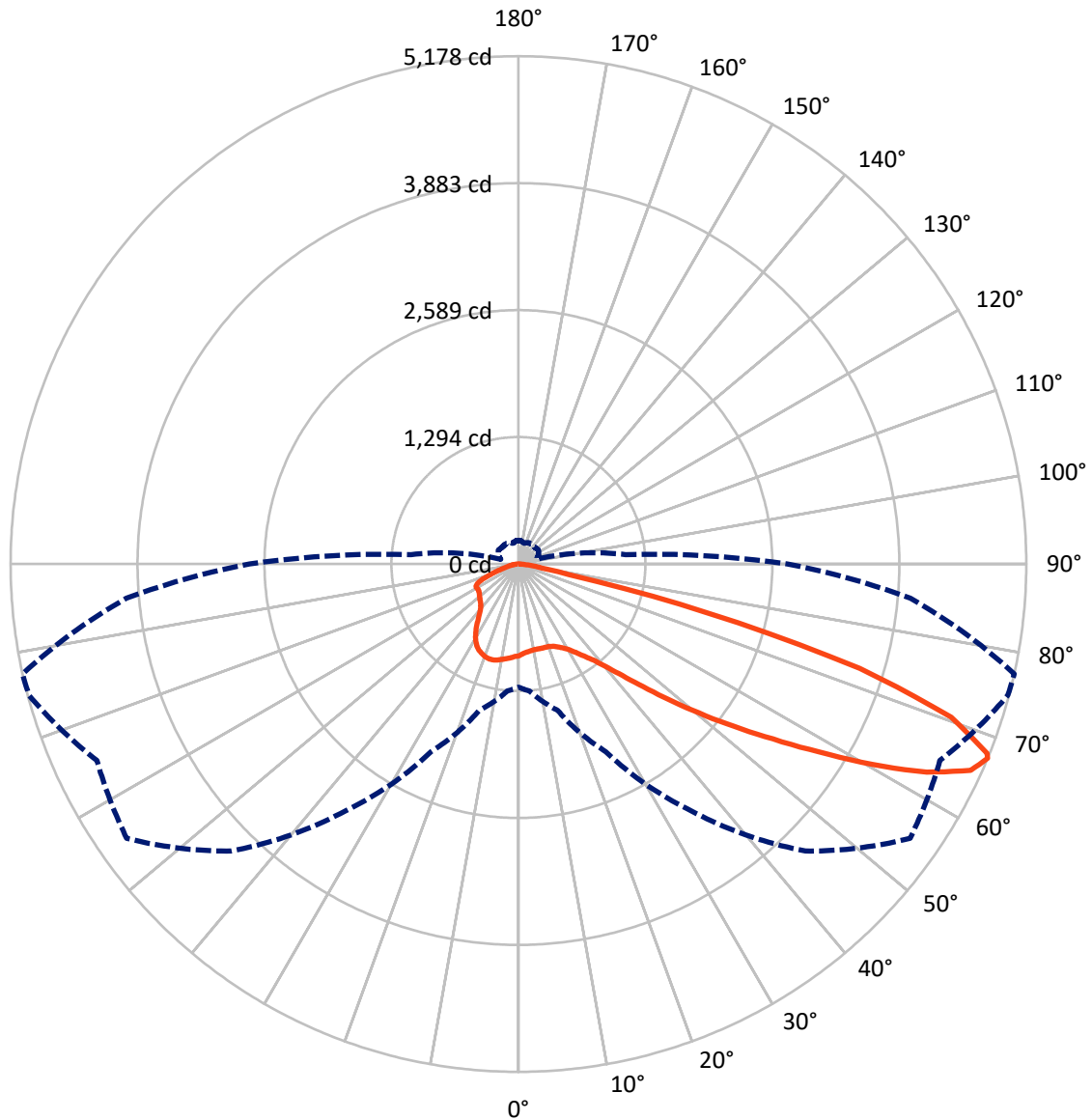
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.2 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1092.4	0.0	1092.4
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	5264.2	0.0	5264.2
	% Fixture	82.8	0.0	82.8
Total	Lumens	6356.6	0.0	6356.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.3	1.3
10°-20°	230.7	3.6
20°-30°	392.1	6.2
30°-40°	627.2	9.9
40°-50°	965.6	15.2
50°-60°	1339.7	21.1
60°-70°	1787.0	28.1
70°-80°	850.4	13.4
80°-90°	80.5	1.3
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°	6356.6	100.0
0°-180°	6356.6	100.0



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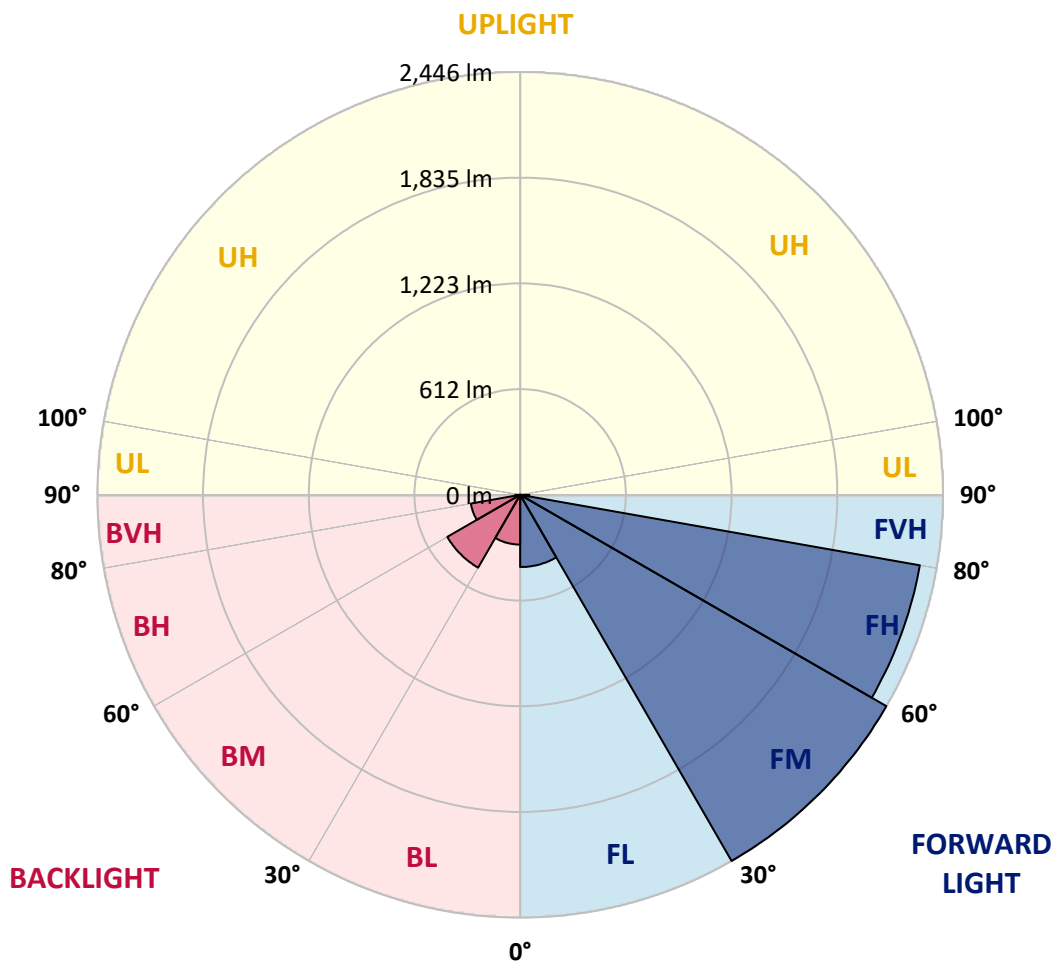
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	418.0	6.6			
FM	(30°-60°)	2446.1	38.5			
FH	(60°-80°)	2347.8	36.9			G2/5000
FVH	(80°-90°)	52.3	0.8			G1/100
BL	(0°-30°)	288.1	4.5	B1/500		
BM	(30°-60°)	486.4	7.7	B1/1000		
BH	(60°-80°)	289.6	4.6	B1/500		G1/500
BVH	(80°-90°)	28.2	0.4			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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5
2.5°	838.8	842.8	843.2	854.6	859.7	872.7	886.8	899.4	910.4	914.3	921.4
5°	754.8	754.8	756.0	763.4	778.0	798.8	828.3	860.5	894.3	902.5	923.3
7.5°	710.7	711.6	712.4	719.9	731.2	749.7	779.2	823.2	879.3	893.1	929.7
10°	714.7	713.5	709.6	708.0	712.8	724.6	750.0	795.2	866.7	888.0	941.0
12.5°	776.4	774.1	761.1	742.3	725.0	720.6	738.3	781.1	860.9	888.0	960.2
15°	882.1	883.6	858.2	818.9	773.7	743.0	740.6	776.0	858.9	890.4	982.6
17.5°	1019.6	1020.4	985.0	928.0	853.0	789.7	756.8	776.0	858.9	892.7	1004.3
20°	1165.8	1160.2	1120.2	1048.7	951.2	854.6	786.2	780.7	861.2	896.2	1024.7
22.5°	1291.1	1286.1	1244.0	1168.9	1057.3	931.2	825.9	796.5	874.2	910.7	1053.4
25°	1400.7	1403.9	1363.0	1278.6	1163.0	1017.6	885.3	832.6	901.3	937.1	1088.7
27.5°	1533.9	1528.1	1480.9	1400.3	1271.8	1107.2	959.5	878.2	933.5	968.9	1132.0
30°	1688.0	1685.2	1621.6	1538.6	1391.7	1207.4	1033.0	927.3	975.6	1012.5	1186.2
32.5°	1875.0	1874.6	1806.2	1704.4	1526.4	1320.6	1119.8	994.5	1036.9	1074.2	1258.1
35°	2086.7	2086.4	2015.6	1881.3	1681.6	1445.9	1221.9	1076.1	1112.8	1152.0	1343.7
37.5°	2233.7	2231.4	2194.4	2064.0	1853.4	1591.7	1349.7	1186.2	1198.8	1242.8	1447.1
40°	2262.1	2276.2	2308.0	2231.0	2040.8	1753.5	1477.8	1304.5	1316.2	1372.8	1577.2
42.5°	2231.4	2249.8	2355.5	2377.1	2228.2	1949.6	1638.1	1468.3	1483.3	1553.6	1730.0
45°	2204.7	2220.7	2353.2	2458.0	2413.2	2163.3	1838.0	1668.3	1696.6	1783.8	1904.4
47.5°	2159.0	2174.0	2306.8	2472.6	2519.0	2369.3	2078.9	1908.7	1957.5	2063.2	2103.3
50°	2156.7	2163.3	2243.5	2423.9	2555.5	2525.7	2345.7	2190.1	2264.7	2386.5	2323.3
52.5°	2096.9	2143.7	2216.4	2346.0	2556.3	2616.8	2608.5	2498.6	2613.6	2748.5	2564.5
55°	1731.5	1785.4	2126.1	2308.0	2551.5	2695.0	2848.6	2826.6	3006.6	3148.4	2834.9
57.5°	1616.9	1639.6	1865.1	2319.3	2590.8	2824.3	3088.7	3179.0	3456.0	3610.9	3159.0
60°	1585.4	1609.4	1812.9	2324.9	2697.3	3059.6	3414.4	3577.1	3984.5	4148.8	3527.1
62.5°	1550.5	1581.5	1816.9	2330.0	2884.4	3407.8	3846.6	4008.9	4527.2	4673.7	3872.2
65°	1448.3	1489.5	1744.1	2297.8	3089.1	3844.7	4417.9	4459.1	4975.4	5068.6	4080.4
67°	1254.5	1299.8	1544.6	2111.5	3070.2	4139.0	4874.9	4740.9	5166.0	5177.5	4012.8
67.5°	1193.3	1240.0	1476.9	2034.1	3016.4	4177.4	4955.8	4779.8	5164.5	5151.9	3949.9
70°	803.5	856.1	1046.0	1493.5	2419.6	3887.9	4936.1	4660.0	4825.8	4681.5	3393.6
72.5°	398.8	400.4	521.8	818.1	1466.0	2788.5	4117.7	3986.5	3911.9	3639.6	2490.3
75°	192.1	195.7	246.3	361.5	618.1	1439.6	2808.1	2689.8	2290.3	1983.0	1246.4
77.5°	146.6	150.1	191.4	235.4	257.8	469.5	1390.9	1124.1	663.6	530.0	351.3
80°	113.1	119.8	161.5	180.8	170.5	188.2	437.3	344.2	258.2	236.9	174.1
82.5°	88.4	92.4	137.2	137.2	117.8	126.1	203.6	198.9	160.3	144.5	93.5
85°	62.5	70.4	110.4	102.2	77.4	78.2	121.8	116.7	82.6	66.4	36.5
87.5°	27.9	35.8	78.6	66.8	41.2	31.8	49.9	42.9	32.6	25.2	16.9
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°	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5	935.5
2.5°	929.2	935.5	945.3	951.2	959.1	962.3	965.4	970.9	975.2	974.1	972.1
5°	937.8	948.5	960.7	964.6	964.6	960.7	958.3	958.7	957.5	956.8	954.4
7.5°	950.4	964.9	973.6	969.8	957.5	942.2	927.7	919.0	910.7	905.6	907.3
10°	968.1	984.3	984.6	967.3	938.3	904.9	876.2	857.7	840.0	832.2	834.5
12.5°	993.7	1009.8	996.0	958.7	907.7	855.4	802.7	764.7	730.4	722.2	719.9
15°	1021.2	1033.8	1003.1	940.2	863.6	777.5	689.2	632.2	594.1	587.4	585.0
17.5°	1045.1	1052.2	999.5	907.3	794.1	658.5	555.6	517.1	509.2	513.1	513.1
20°	1066.3	1064.0	984.3	856.1	684.5	526.5	466.8	466.4	477.0	486.8	487.6
22.5°	1093.1	1074.6	959.9	780.3	553.6	439.3	429.0	439.3	451.0	462.1	463.3
25°	1124.9	1086.4	927.3	672.3	445.2	398.8	403.1	411.7	419.2	427.9	428.3
27.5°	1156.8	1095.5	881.3	545.3	386.3	372.9	377.6	381.2	383.1	388.6	388.6
30°	1193.7	1102.5	814.9	436.9	359.2	350.1	347.3	345.8	347.3	354.8	355.2
32.5°	1240.0	1115.1	724.1	374.8	346.6	334.0	319.9	312.0	317.5	330.8	333.2
35°	1292.7	1130.1	615.3	350.1	342.2	326.1	300.2	288.0	290.0	302.2	304.1
37.5°	1358.7	1149.3	508.0	344.2	346.6	325.3	291.1	273.8	265.3	265.7	265.3
40°	1443.2	1168.5	423.2	345.8	356.0	327.3	286.8	259.7	241.6	242.4	244.0
42.5°	1531.6	1181.1	369.4	350.5	367.3	330.0	285.3	245.9	230.3	243.6	255.7
45°	1634.9	1177.5	341.5	354.8	376.0	331.2	279.4	244.4	231.4	271.5	294.3
47.5°	1753.5	1162.3	325.7	356.8	378.4	330.8	275.1	249.5	241.2	310.8	336.8
50°	1882.4	1138.2	313.1	353.6	377.2	329.3	279.8	255.7	245.2	319.5	339.5
52.5°	2023.5	1116.2	300.2	346.6	371.3	324.6	285.6	253.1	234.2	294.3	309.6
55°	2190.4	1111.1	285.6	334.4	361.5	319.5	282.5	244.4	222.0	260.9	270.4
57.5°	2381.4	1142.9	266.8	319.5	348.1	309.2	275.1	239.7	217.7	237.3	242.4
60°	2623.9	1213.3	246.7	303.7	331.6	293.9	268.3	240.9	218.8	233.7	235.0
62.5°	2813.2	1276.5	228.6	284.5	309.6	275.5	261.3	242.0	222.4	238.4	236.5
65°	2882.1	1245.5	206.3	255.7	278.5	255.0	251.4	242.8	222.4	241.2	236.9
67°	2741.0	1097.4	185.1	227.1	249.1	236.9	242.0	239.7	218.5	240.9	233.4
67.5°	2673.8	1045.1	179.5	222.4	241.2	231.4	239.7	238.1	217.3	240.1	231.4
70°	2205.1	749.7	151.7	186.6	201.9	203.9	225.2	227.9	207.9	225.6	209.8
72.5°	1568.9	469.1	130.8	144.5	163.1	174.4	205.5	214.1	195.3	196.1	183.1
75°	776.4	251.9	116.7	111.6	126.9	145.4	179.1	195.3	176.8	163.5	159.2
77.5°	262.1	142.6	98.6	90.0	98.6	116.7	148.5	170.5	156.0	138.3	135.5
80°	135.5	103.7	77.0	72.3	77.8	90.3	116.3	141.9	133.2	134.0	110.4
82.5°	84.5	63.2	55.4	55.0	58.9	69.2	85.6	115.1	114.4	97.8	71.1
85°	39.3	36.5	35.4	36.5	37.7	39.3	55.8	82.1	86.8	52.7	46.7
87.5°	16.5	16.1	14.1	15.3	16.9	16.5	22.4	35.0	48.7	33.0	30.3
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)