

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: P197144

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197144  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
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-SL4-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7661 lumens  
Efficiency: N/A  
Efficacy: 90.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G3

Input Watts (W): 85  
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

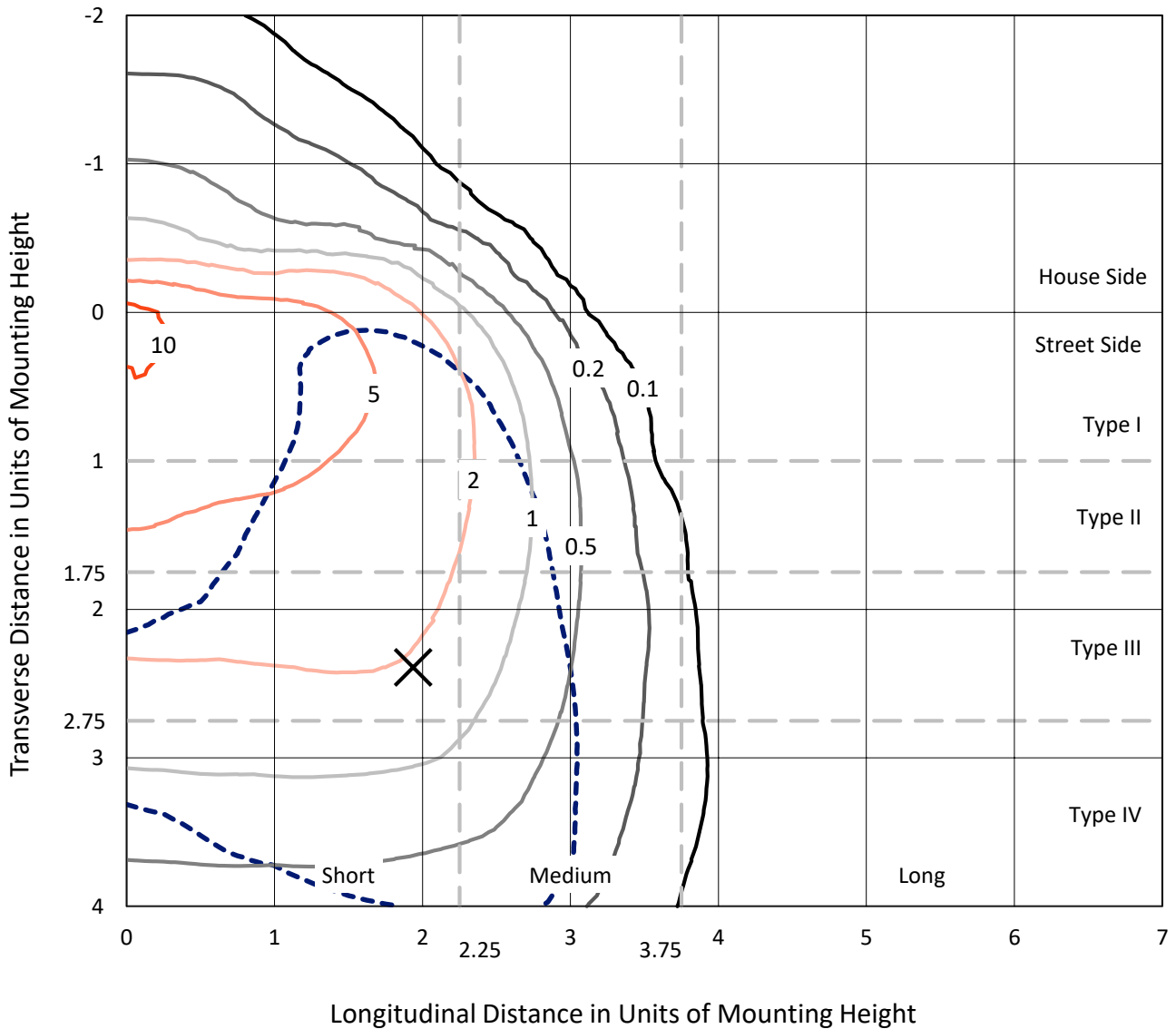


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### Iso-Footcandle Lines of Horizontal Illumination

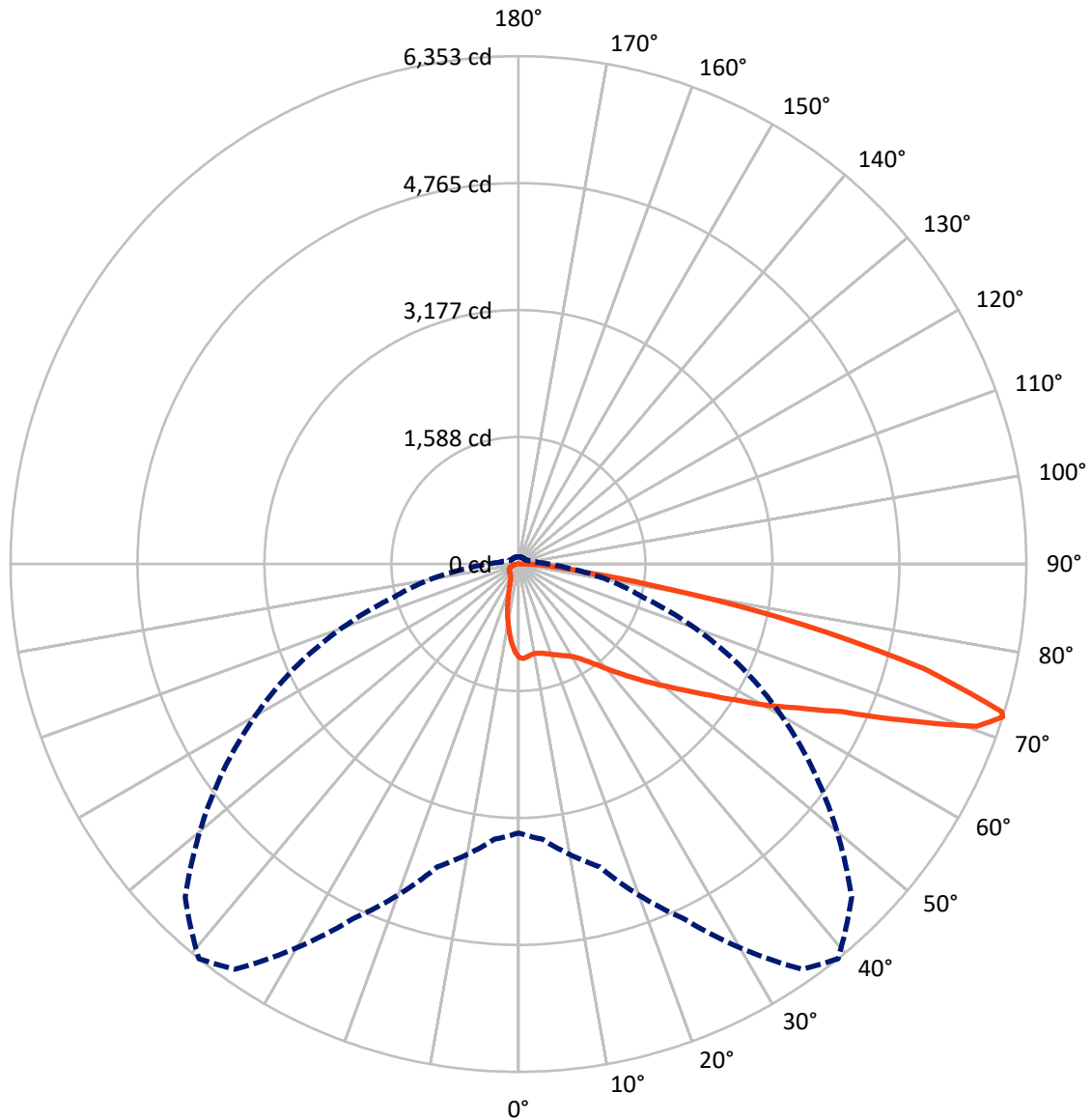
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.7 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral    - - - Horizontal Cone Through 72-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	878.4	0.0	878.4
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	6782.6	0.0	6782.6
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	7661.0	0.0	7661.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.5	1.3
10°-20°	252.6	3.3
20°-30°	393.7	5.1
30°-40°	606.2	7.9
40°-50°	988.2	12.9
50°-60°	1535.6	20.0
60°-70°	2055.4	26.8
70°-80°	1478.1	19.3
80°-90°	250.6	3.3
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°	7661.0	100.0
0°-180°	7661.0	100.0



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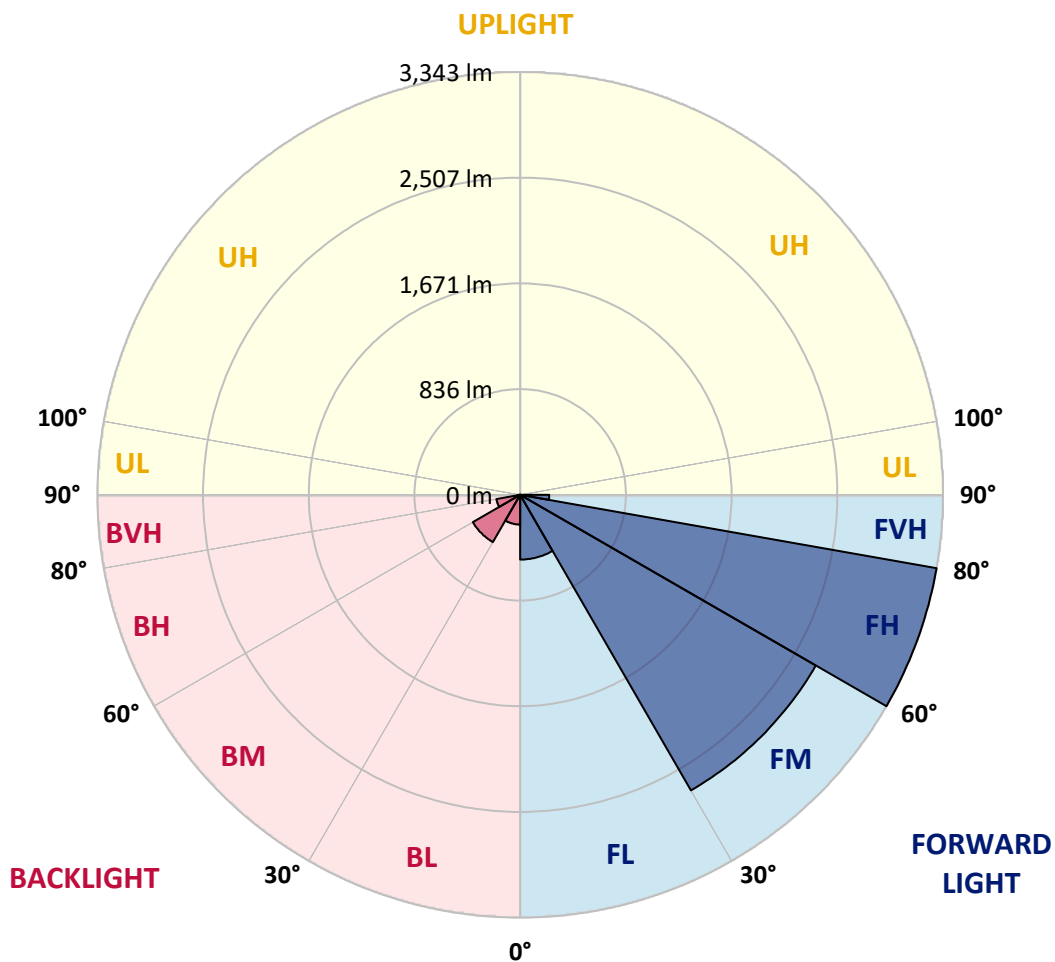
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	511.7	6.7			
FM	(30°-60°)	2698.4	35.2			
FH	(60°-80°)	3342.6	43.6			G2/5000
FVH	(80°-90°)	229.9	3.0			G3/500
BL	(0°-30°)	235.2	3.1	B1/500		
BM	(30°-60°)	431.7	5.6	B1/1000		
BH	(60°-80°)	190.9	2.5	B1/500		G1/500
BVH	(80°-90°)	20.7	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0
2.5°	1195.2	1195.7	1194.1	1189.5	1185.4	1183.3	1179.7	1173.6	1165.3	1159.7	1155.1
5°	1183.9	1185.4	1184.4	1176.7	1169.5	1165.3	1159.7	1150.9	1140.1	1135.5	1124.7
7.5°	1175.1	1176.1	1173.1	1164.3	1150.4	1145.3	1135.0	1123.7	1113.9	1107.2	1094.4
10°	1168.9	1170.0	1167.4	1158.7	1143.2	1137.1	1124.7	1112.4	1099.5	1091.3	1076.9
12.5°	1160.2	1162.3	1162.3	1158.1	1147.9	1143.7	1131.4	1118.0	1106.2	1097.5	1079.5
15°	1158.7	1161.2	1165.9	1165.3	1162.3	1159.2	1149.4	1136.0	1125.7	1115.5	1093.3
17.5°	1171.5	1177.2	1186.4	1189.5	1187.5	1180.8	1169.5	1157.1	1145.8	1136.0	1108.8
20°	1203.9	1207.0	1220.9	1227.1	1216.8	1207.0	1192.1	1176.1	1165.9	1158.1	1123.2
22.5°	1252.8	1256.9	1268.2	1268.7	1247.1	1235.3	1216.3	1196.7	1186.9	1183.9	1142.7
25°	1330.9	1329.9	1333.0	1320.1	1281.1	1267.2	1244.0	1221.4	1214.7	1220.9	1171.5
27.5°	1424.5	1422.0	1412.2	1378.8	1319.6	1301.6	1273.9	1253.8	1253.8	1268.2	1210.6
30°	1532.5	1530.0	1498.1	1442.0	1365.4	1344.8	1315.5	1294.4	1305.2	1333.0	1263.6
32.5°	1646.7	1637.4	1592.7	1517.6	1430.7	1408.1	1379.8	1358.2	1378.8	1426.1	1339.7
35°	1754.2	1749.0	1694.0	1605.0	1515.0	1496.0	1476.5	1449.7	1482.7	1556.2	1447.2
37.5°	1865.3	1861.2	1793.8	1699.2	1617.9	1605.0	1588.6	1570.1	1623.0	1719.7	1592.7
40°	1989.2	1981.0	1896.1	1801.5	1737.7	1731.6	1722.8	1717.7	1803.0	1947.0	1776.8
42.5°	2129.6	2113.7	2004.1	1914.1	1868.4	1873.5	1868.9	1889.4	2020.1	2209.3	1995.9
45°	2290.1	2258.2	2111.6	2034.0	2012.9	2033.4	2043.2	2095.7	2276.7	2512.2	2240.7
47.5°	2440.2	2399.1	2229.4	2164.1	2175.9	2211.4	2239.1	2331.7	2558.0	2811.5	2490.6
50°	2578.6	2532.3	2355.4	2298.8	2356.4	2406.8	2464.4	2595.0	2857.3	3119.6	2720.0
52.5°	2680.9	2647.5	2481.4	2445.9	2563.7	2630.5	2722.6	2887.6	3159.7	3413.2	2924.7
55°	2760.1	2742.1	2604.3	2614.6	2798.2	2893.8	3005.4	3195.2	3479.6	3676.5	3089.2
57.5°	2851.6	2838.3	2744.7	2818.2	3089.2	3209.6	3341.2	3552.1	3784.0	3908.5	3218.3
60°	2948.3	2948.3	2901.0	3063.5	3453.3	3591.2	3722.3	3886.4	4087.4	4117.3	3270.8
62.5°	3021.4	3040.4	3057.4	3324.8	3798.9	3970.2	4114.2	4271.6	4401.7	4220.1	3147.4
65°	3127.3	3167.9	3263.6	3626.7	4226.8	4451.0	4645.4	4777.6	4656.2	4138.4	2744.7
67.5°	3309.4	3369.5	3573.2	4076.1	4882.0	5217.8	5406.6	5178.2	4606.3	3623.6	2102.4
70°	3473.4	3558.3	3906.4	4646.5	5733.6	6082.3	5995.4	5085.1	4011.8	2656.2	1293.4
72°	3364.4	3456.9	3921.8	4894.9	6188.8	6353.3	5895.1	4506.6	3100.0	1621.0	637.7
72.5°	3292.9	3389.1	3872.0	4888.7	6201.1	6318.9	5755.7	4276.7	2814.1	1418.4	515.8
75°	2750.8	2833.1	3329.4	4332.8	5464.7	5248.7	4491.7	2767.8	1293.4	458.2	265.4
77.5°	1796.4	1859.1	2295.7	3001.8	3827.7	3620.0	2733.9	1296.0	485.0	278.2	199.5
80°	902.6	947.3	1228.6	1578.3	2065.8	1900.8	1262.0	626.9	324.5	201.1	156.9
82.5°	627.9	669.1	846.0	805.9	863.5	835.7	593.5	523.0	242.7	127.0	82.3
85°	526.6	569.3	699.9	574.4	470.0	428.4	425.3	494.2	160.5	62.7	69.4
87.5°	459.2	524.0	577.5	419.6	322.4	284.4	313.2	453.1	50.9	34.5	21.1
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°	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0	1170.0
2.5°	1147.3	1145.8	1138.1	1126.3	1117.5	1111.9	1101.1	1100.5	1101.6	1092.3	1095.9
5°	1114.9	1108.8	1088.7	1061.5	1039.3	1018.3	995.1	987.4	980.7	966.8	968.4
7.5°	1081.0	1070.2	1035.2	990.5	947.8	908.7	870.2	851.1	836.7	818.7	818.7
10°	1060.9	1044.0	990.5	925.2	857.3	800.2	742.6	708.2	683.0	659.8	658.3
12.5°	1059.9	1034.2	959.6	869.6	776.6	696.3	617.6	564.7	527.1	499.9	497.3
15°	1068.1	1032.1	933.9	817.7	700.4	596.0	498.8	431.5	383.6	353.3	350.2
17.5°	1075.3	1029.6	906.1	763.2	626.4	499.4	391.4	321.4	276.2	251.5	248.9
20°	1082.0	1023.9	870.7	705.6	544.6	408.8	306.0	249.4	219.6	205.7	204.2
22.5°	1091.8	1018.8	833.6	640.8	464.4	332.7	252.5	211.9	195.9	189.3	188.2
25°	1107.7	1019.3	797.6	574.4	390.8	277.2	218.6	193.4	184.6	180.0	180.0
27.5°	1130.9	1025.5	762.2	507.1	328.6	239.1	198.5	183.6	177.9	174.3	173.3
30°	1164.8	1036.8	724.6	443.3	279.3	212.9	186.7	177.4	172.8	169.7	169.2
32.5°	1214.2	1056.8	685.0	385.2	241.7	194.4	177.9	172.3	168.7	166.1	165.6
35°	1287.7	1092.3	646.4	335.8	215.0	181.0	170.7	166.1	164.1	163.0	162.5
37.5°	1395.7	1149.4	609.9	297.3	197.5	172.3	163.5	161.0	159.9	159.9	159.9
40°	1531.5	1224.5	577.0	270.0	187.7	165.6	158.4	156.3	156.3	156.9	156.9
42.5°	1696.6	1318.6	548.7	251.5	182.1	161.0	154.8	153.8	153.3	153.3	153.8
45°	1888.4	1429.7	531.2	237.1	177.9	158.4	152.2	151.7	149.7	148.6	148.6
47.5°	2081.3	1548.5	530.2	228.9	172.8	155.3	149.7	149.7	145.5	143.5	144.0
50°	2261.3	1654.9	541.5	226.8	169.7	150.7	147.1	147.6	141.9	139.4	138.9
52.5°	2406.3	1736.2	555.4	229.4	169.7	146.6	142.5	145.0	138.9	135.8	135.3
55°	2518.4	1792.8	560.6	235.0	171.8	143.0	138.3	142.5	137.8	133.7	133.7
57.5°	2598.6	1810.8	538.4	237.6	174.9	142.5	134.2	141.9	139.4	134.2	134.2
60°	2569.3	1706.4	456.2	227.8	174.3	141.4	131.1	143.0	144.5	138.9	138.9
62.5°	2340.5	1427.6	366.2	205.7	165.6	137.8	127.5	141.9	148.1	146.1	145.0
65°	1905.4	1047.1	283.9	179.5	150.7	130.1	119.8	132.7	139.9	141.9	142.5
67.5°	1342.8	662.9	220.6	152.7	132.2	118.8	111.1	117.3	119.8	120.9	122.9
70°	734.4	359.0	175.4	128.6	113.1	107.5	101.8	102.3	101.3	100.3	101.3
72°	368.7	234.5	148.1	111.6	100.3	96.7	94.1	92.6	92.6	91.0	91.5
72.5°	317.3	218.1	143.0	107.5	97.2	94.1	92.1	90.5	90.0	89.0	89.5
75°	211.4	172.8	119.3	90.0	82.8	80.7	81.8	80.2	80.7	79.7	80.2
77.5°	170.7	148.6	101.3	76.1	71.0	67.9	69.9	70.5	71.5	70.5	69.9
80°	143.0	126.5	84.9	62.7	59.1	56.6	57.6	61.2	61.7	58.6	58.1
82.5°	92.6	101.8	66.9	48.9	45.3	44.2	46.8	50.4	51.4	47.3	46.3
85°	77.7	81.8	48.3	33.4	29.8	28.8	33.9	37.5	40.1	36.0	35.0
87.5°	21.6	40.1	23.7	15.9	13.4	13.4	16.5	19.5	23.1	23.7	23.7
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)