

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: P233798

Luminaire Tested: **VRDN-C028-D-UNV-T4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P233798
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1710-389-34)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: VRDN-C028-D-UNV-T4-HSS
Description: VERDEON ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 930mA LEDS AND TYPE IV OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9514 lumens
Efficiency: N/A
Efficacy: 130.3 lumens/watt
Luminous Opening: Rectangular (W 0.79' x L: 1.25' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

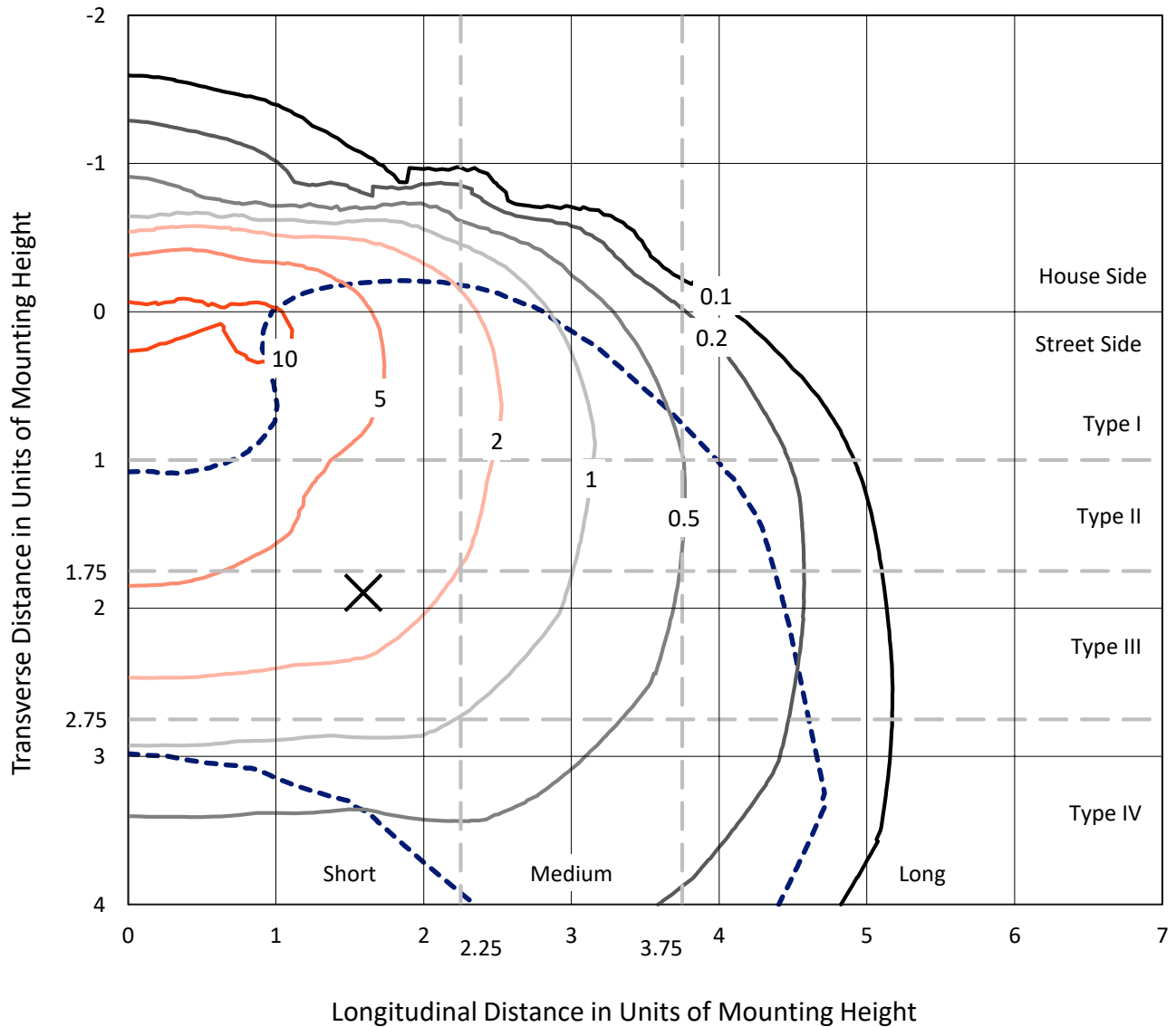
Input Watts (W): 73
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

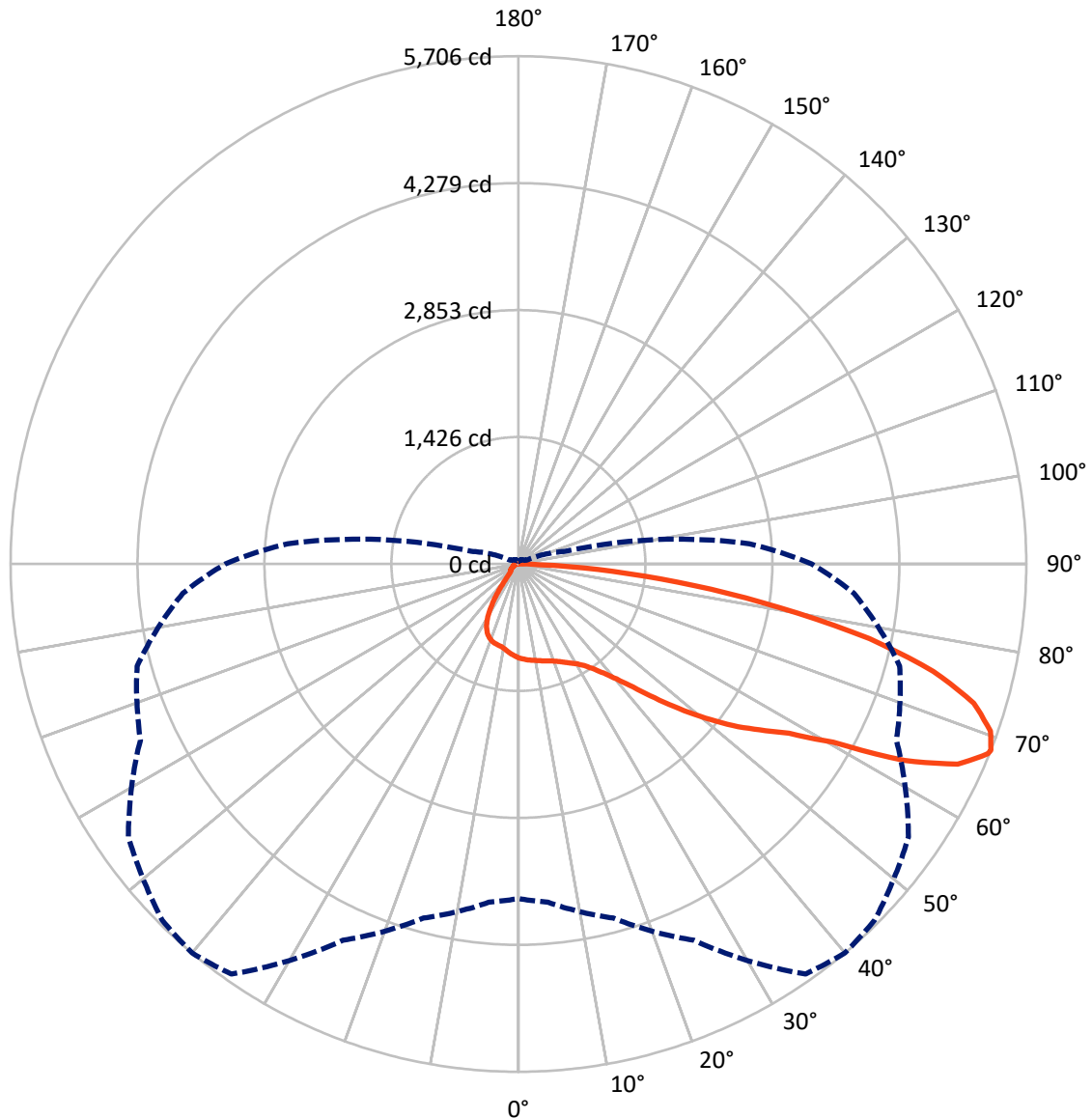
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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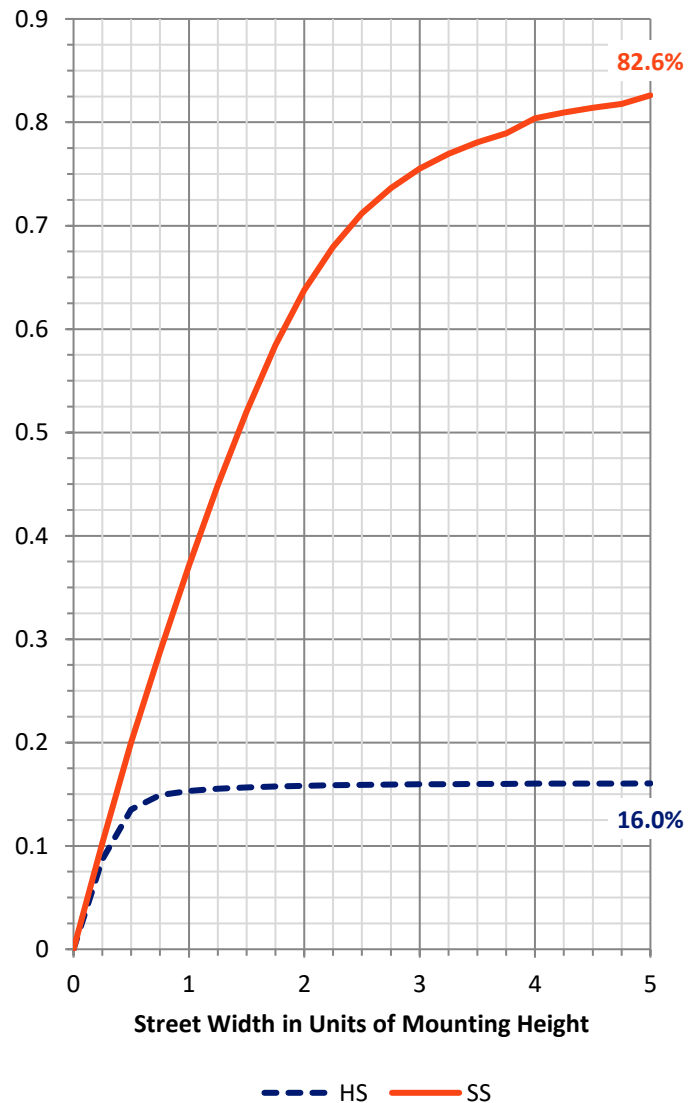
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1543.4	0.0	1543.4
	% Fixture	16.2	0.0	16.2
Street Side	Lumens	7970.7	0.0	7970.7
	% Fixture	83.8	0.0	83.8
Total	Lumens	9514.0	0.0	9514.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.3	1.1
10°-20°	300.4	3.2
20°-30°	504.2	5.3
30°-40°	746.7	7.8
40°-50°	1263.2	13.3
50°-60°	1927.9	20.3
60°-70°	2524.3	26.5
70°-80°	1814.8	19.1
80°-90°	332.2	3.5
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°	9514.0	100.0
0°-180°	9514.0	100.0



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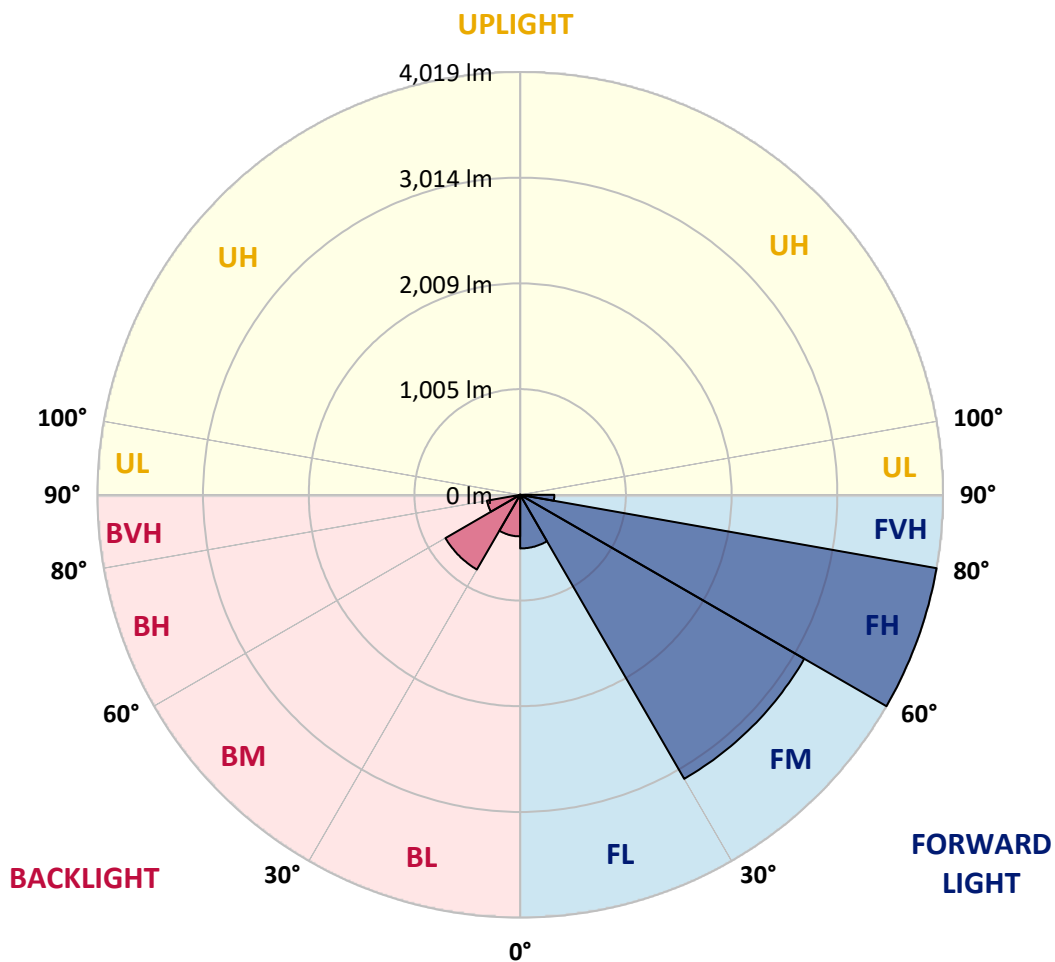
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	510.0	5.4			
FM	(30°-60°)	3117.4	32.8			
FH	(60°-80°)	4018.9	42.2			G2/5000
FVH	(80°-90°)	324.3	3.4			G3/500
BL	(0°-30°)	394.9	4.2	B1/500		
BM	(30°-60°)	820.3	8.6	B1/1000		
BH	(60°-80°)	320.3	3.4	B1/500		G1/500
BVH	(80°-90°)	7.9	0.1			G0/10
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°	40°	45°	55°	65°	75°	85°
0°	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2
2.5°	1090.6	1093.0	1089.9	1081.9	1073.1	1068.3	1067.5	1066.7	1062.8	1057.2	1049.2
5°	1101.8	1102.6	1099.4	1093.0	1085.1	1083.5	1081.1	1081.9	1079.5	1073.9	1065.2
7.5°	1106.6	1108.2	1104.2	1097.8	1091.4	1091.4	1090.6	1093.0	1091.4	1089.1	1078.7
10°	1105.0	1107.4	1105.0	1102.6	1100.2	1102.6	1101.0	1106.6	1107.4	1107.4	1095.4
12.5°	1102.6	1105.8	1106.6	1109.0	1113.0	1115.3	1118.5	1130.5	1136.1	1140.0	1130.5
15°	1105.0	1106.6	1113.0	1116.9	1124.9	1130.5	1137.7	1157.6	1167.1	1178.3	1173.5
17.5°	1115.3	1119.3	1128.9	1132.9	1140.8	1144.8	1153.6	1178.3	1197.4	1217.3	1220.5
20°	1137.7	1140.0	1156.0	1157.6	1161.6	1165.5	1175.1	1202.2	1230.9	1259.5	1267.5
22.5°	1162.4	1167.9	1183.1	1180.7	1188.6	1190.2	1199.0	1228.5	1268.3	1303.4	1320.9
25°	1187.8	1192.6	1207.8	1209.4	1218.9	1225.3	1235.6	1264.3	1315.3	1359.9	1391.0
27.5°	1209.4	1218.9	1233.3	1234.8	1253.2	1261.1	1276.3	1308.9	1370.3	1425.3	1476.2
30°	1249.2	1251.6	1265.1	1269.9	1294.6	1301.8	1319.3	1360.7	1435.6	1504.1	1583.8
32.5°	1298.6	1297.8	1310.5	1318.5	1348.8	1361.5	1383.8	1431.6	1514.5	1599.7	1712.9
35°	1389.4	1381.4	1389.4	1397.4	1432.4	1446.0	1469.9	1541.6	1638.8	1783.8	1923.2
37.5°	1598.1	1586.2	1569.5	1529.6	1538.4	1555.9	1591.0	1688.2	1831.6	2100.8	2235.5
40°	1959.8	1933.5	1863.4	1758.3	1696.1	1697.7	1730.4	1857.8	2068.2	2464.1	2565.3
42.5°	2287.3	2268.9	2184.5	2040.3	1896.9	1888.9	1900.1	2049.1	2326.3	2801.1	2853.7
45°	2595.6	2604.3	2481.6	2368.5	2197.2	2144.7	2131.1	2253.0	2612.3	3101.5	3106.2
47.5°	2880.8	2895.1	2746.9	2640.2	2471.3	2425.9	2383.7	2467.3	2882.4	3357.2	3318.2
50°	3187.5	3198.7	2993.1	2905.5	2763.7	2721.4	2689.6	2726.2	3158.8	3594.6	3507.0
52.5°	3611.3	3549.2	3291.1	3146.1	3020.2	3017.0	2992.3	3015.4	3473.5	3808.1	3650.4
55°	4111.6	3949.1	3675.1	3443.2	3281.5	3290.3	3260.8	3299.0	3785.0	3991.3	3783.4
57.5°	4288.5	4284.5	4157.1	3934.8	3606.6	3586.6	3535.6	3578.7	4054.3	4162.6	3877.4
60°	4533.9	4555.4	4569.7	4435.9	4246.3	4065.4	3894.9	3891.0	4305.2	4318.8	3923.6
62.5°	4692.4	4712.3	4823.9	4806.3	4923.5	4863.7	4669.3	4238.3	4497.2	4420.0	3941.2
65°	4396.1	4445.5	4726.7	4941.0	5340.1	5423.8	5395.9	4772.1	4627.9	4449.4	3908.5
67.5°	3859.9	3924.4	4232.7	4733.8	5598.2	5691.5	5640.5	5309.8	4684.5	4436.7	3818.5
68°	3759.5	3815.3	4118.0	4664.5	5624.5	5705.8	5659.6	5349.7	4686.8	4435.1	3784.2
70°	3276.7	3322.1	3617.7	4309.2	5551.2	5626.9	5620.6	5387.1	4666.1	4385.7	3554.0
72.5°	2542.2	2587.6	2849.7	3573.9	5212.7	5351.3	5345.7	5237.3	4627.9	4134.0	2979.6
75°	1837.9	1888.1	2127.1	2746.1	4510.8	4815.9	4877.3	4980.8	4230.4	3479.1	2120.0
77.5°	1327.3	1363.9	1570.2	2074.5	3684.6	4033.6	4157.9	4262.2	3462.4	2535.8	1008.6
80°	885.1	911.4	1110.6	1542.4	2775.6	2981.2	3115.0	2940.5	1970.2	917.0	109.1
82.5°	544.9	561.7	718.6	1081.9	1920.0	1984.5	1985.3	1568.7	635.0	87.6	59.0
85°	292.4	298.0	390.4	590.3	1014.2	1062.8	1043.6	658.9	128.3	47.0	31.9
87.5°	47.0	51.0	122.7	221.5	313.1	241.4	154.6	48.6	12.7	7.2	4.8
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°	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2	1057.2
2.5°	1053.2	1050.8	1044.4	1041.3	1033.3	1035.7	1035.7	1029.3	1032.5	1045.2	1043.6
5°	1062.8	1063.6	1048.4	1040.5	1022.9	1018.2	1011.0	1001.4	1000.6	1009.4	1010.2
7.5°	1070.7	1074.7	1053.2	1037.3	1013.4	996.6	982.3	965.6	961.6	967.2	967.2
10°	1083.5	1087.5	1060.4	1038.1	1003.0	975.9	951.2	929.7	921.0	921.0	921.8
12.5°	1116.9	1114.5	1083.5	1049.2	1007.8	964.8	925.7	897.1	876.3	875.5	872.4
15°	1163.1	1154.4	1124.1	1072.3	1018.9	964.0	909.8	865.2	829.3	819.8	815.8
17.5°	1212.5	1201.4	1164.7	1101.8	1036.5	963.2	891.5	829.3	769.6	746.5	739.3
20°	1265.9	1252.4	1214.9	1136.1	1054.0	957.6	864.4	777.6	696.3	652.5	641.3
22.5°	1324.9	1313.7	1268.3	1171.1	1066.0	945.7	822.2	712.2	608.7	545.7	540.9
25°	1401.4	1391.0	1324.1	1202.2	1066.7	923.3	766.4	628.6	498.7	424.6	409.5
27.5°	1493.0	1474.6	1368.7	1221.3	1054.0	884.3	693.9	517.0	370.5	308.3	306.7
30°	1592.6	1559.1	1404.5	1226.1	1025.3	822.2	594.3	380.0	262.9	220.7	220.7
32.5°	1709.7	1648.3	1441.2	1218.1	978.3	736.1	454.9	263.7	180.8	160.9	160.9
35°	1881.0	1786.1	1488.2	1198.2	912.2	617.4	323.5	174.5	142.6	140.2	140.2
37.5°	2151.8	1994.1	1551.9	1164.7	821.4	470.8	210.3	134.6	136.2	136.2	135.4
40°	2440.2	2234.7	1639.6	1111.4	707.4	325.0	137.8	127.5	129.9	131.5	130.7
42.5°	2700.7	2463.3	1735.2	1039.7	572.8	204.7	125.9	122.7	121.1	122.7	123.5
45°	2926.2	2661.7	1831.6	946.5	423.0	133.8	122.7	115.5	110.7	111.5	112.3
47.5°	3119.0	2817.8	1896.9	848.5	280.4	118.7	118.7	106.0	101.2	101.2	101.2
50°	3287.9	2956.5	1936.7	731.3	167.3	117.1	111.5	97.2	92.4	91.6	92.4
52.5°	3410.6	3053.7	1931.9	588.7	112.3	113.1	102.0	89.2	83.7	85.2	86.0
55°	3507.8	3115.0	1889.7	431.0	105.2	106.0	94.8	80.5	76.5	77.3	77.3
57.5°	3569.1	3130.1	1803.7	280.4	102.8	94.8	85.2	71.7	66.9	66.9	66.9
60°	3589.0	3122.2	1686.6	179.3	102.0	85.2	77.3	64.5	59.8	59.8	59.8
62.5°	3572.3	3076.0	1488.2	129.1	94.8	79.7	70.1	57.4	52.6	51.0	51.0
65°	3512.5	2952.5	1147.2	106.8	85.2	73.3	63.7	51.8	45.4	43.0	42.2
67.5°	3338.1	2684.8	667.6	100.4	77.3	66.9	59.0	47.0	39.8	35.9	35.1
68°	3292.7	2605.1	548.9	99.6	77.3	66.1	58.2	45.4	38.2	34.3	33.5
70°	2967.6	2101.6	157.7	94.8	75.7	63.7	53.4	41.4	34.3	29.5	28.7
72.5°	2234.7	1231.7	98.8	84.4	74.9	56.6	51.8	41.4	30.3	25.5	23.9
75°	1247.6	280.4	83.7	62.9	70.1	55.8	51.0	37.4	27.1	20.7	19.9
77.5°	256.5	81.3	71.7	43.8	53.4	48.6	43.0	31.9	24.7	15.9	15.1
80°	72.5	60.5	63.7	31.9	30.3	34.3	31.9	27.9	18.3	12.0	12.0
82.5°	47.0	44.6	57.4	21.5	15.9	15.9	20.7	16.7	15.9	9.6	9.6
85°	28.7	37.4	27.9	9.6	8.0	6.4	7.2	7.2	9.6	6.4	6.4
87.5°	4.0	4.0	4.0	4.0	4.0	3.2	2.4	2.4	2.4	3.2	3.2
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)