

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: P197145

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197145
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-03-D-UNV-SL4-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 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: 11393 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

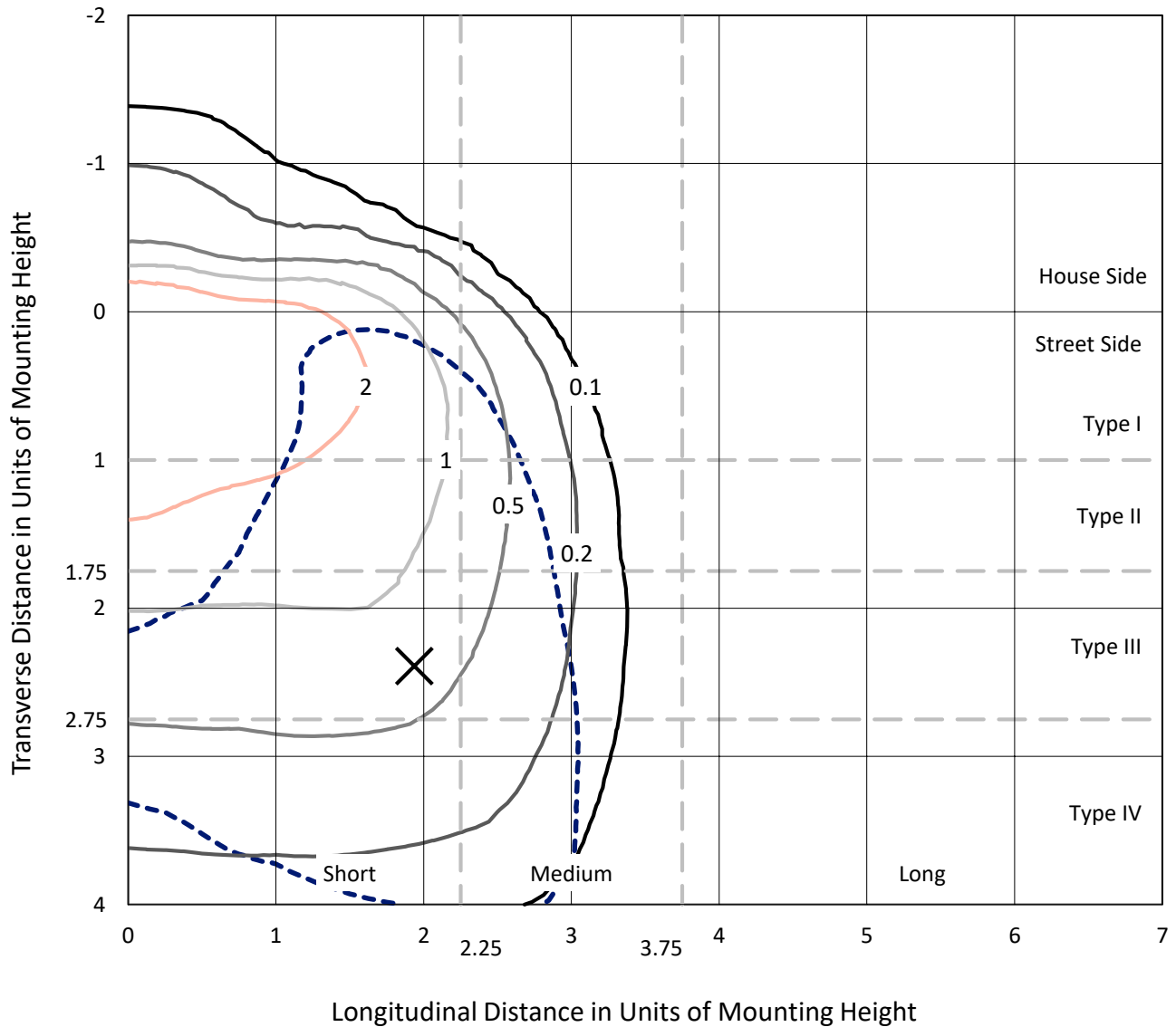
Input Watts (W): 124
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

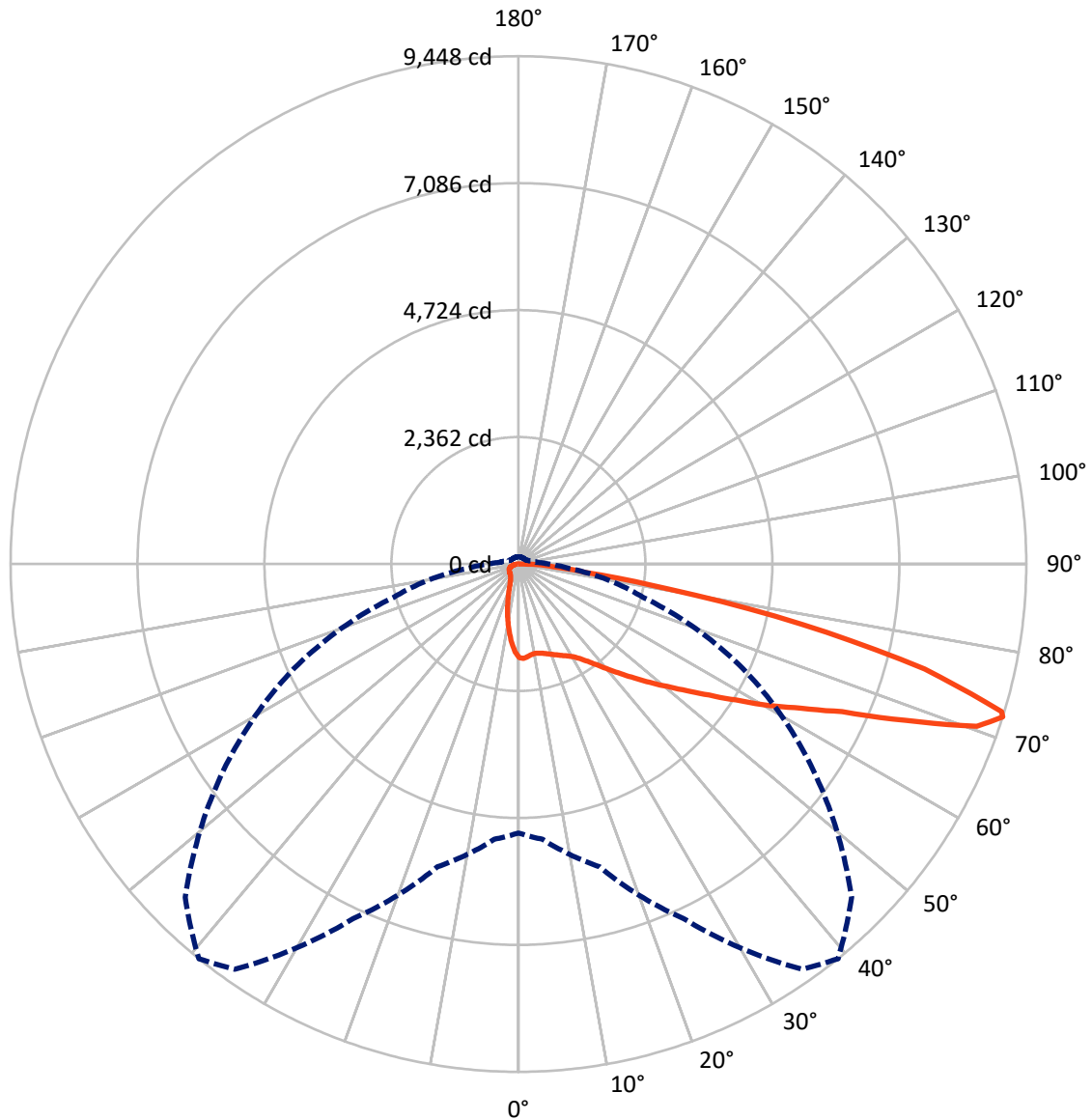


Based on 20 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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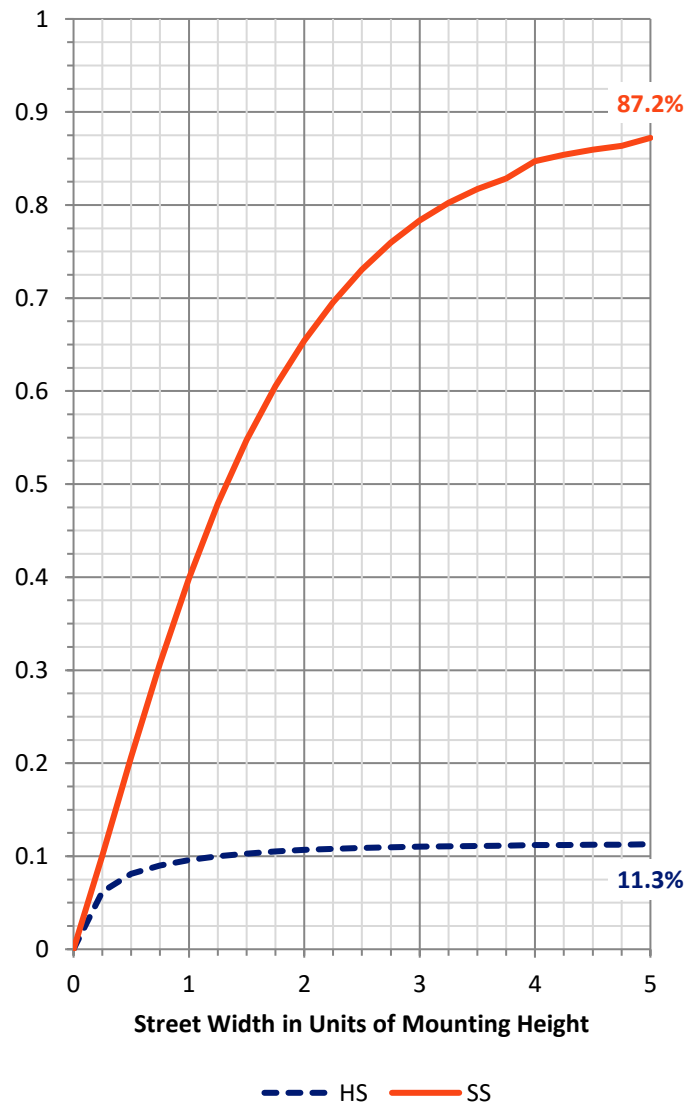
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1306.4	0.0	1306.4
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	10086.6	0.0	10086.6
	% Fixture	88.5	0.0	88.5
Total	Lumens	11393.0	0.0	11393.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.5	1.3
10°-20°	375.7	3.3
20°-30°	585.5	5.1
30°-40°	901.5	7.9
40°-50°	1469.7	12.9
50°-60°	2283.7	20.0
60°-70°	3056.6	26.8
70°-80°	2198.2	19.3
80°-90°	372.6	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°	11393.0	100.0
0°-180°	11393.0	100.0

Coefficient of Utilization



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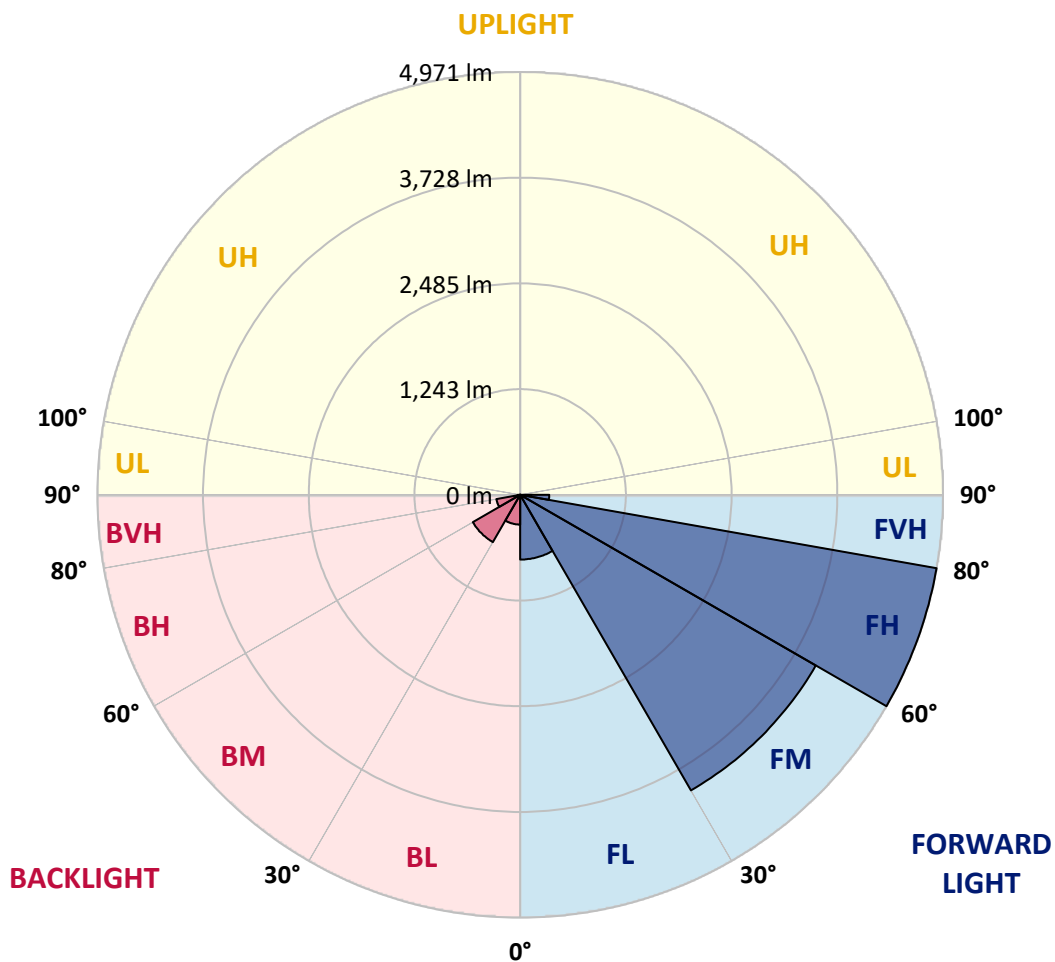
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	761.0	6.7			
FM	(30°-60°)	4012.8	35.2			
FH	(60°-80°)	4970.9	43.6			G2/5000
FVH	(80°-90°)	341.8	3.0			G3/500
BL	(0°-30°)	349.7	3.1	B1/500		
BM	(30°-60°)	642.0	5.6	B1/1000		
BH	(60°-80°)	283.8	2.5	B1/500		G1/500
BVH	(80°-90°)	30.8	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°	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9
2.5°	1777.4	1778.2	1775.9	1769.0	1762.9	1759.8	1754.4	1745.3	1733.0	1724.6	1717.7
5°	1760.6	1762.9	1761.3	1749.9	1739.2	1733.0	1724.6	1711.6	1695.6	1688.7	1672.6
7.5°	1747.6	1749.1	1744.5	1731.5	1710.9	1703.2	1687.9	1671.1	1656.6	1646.6	1627.5
10°	1738.4	1739.9	1736.1	1723.1	1700.1	1691.0	1672.6	1654.3	1635.1	1622.9	1601.5
12.5°	1725.4	1728.4	1728.4	1722.3	1707.0	1700.9	1682.6	1662.7	1645.1	1632.1	1605.3
15°	1723.1	1726.9	1733.8	1733.0	1728.4	1723.9	1709.3	1689.4	1674.1	1658.8	1626.0
17.5°	1742.2	1750.6	1764.4	1769.0	1765.9	1756.0	1739.2	1720.8	1704.0	1689.4	1648.9
20°	1790.4	1795.0	1815.6	1824.8	1809.5	1795.0	1772.8	1749.1	1733.8	1722.3	1670.3
22.5°	1863.0	1869.2	1886.0	1886.8	1854.6	1837.0	1808.7	1779.7	1765.2	1760.6	1699.4
25°	1979.3	1977.8	1982.4	1963.2	1905.1	1884.5	1850.0	1816.4	1806.5	1815.6	1742.2
27.5°	2118.5	2114.7	2100.1	2050.4	1962.5	1935.7	1894.4	1864.6	1864.6	1886.0	1800.3
30°	2279.1	2275.3	2227.9	2144.5	2030.5	1999.9	1956.4	1925.0	1941.1	1982.4	1879.1
32.5°	2448.9	2435.1	2368.6	2256.9	2127.7	2094.0	2052.0	2019.8	2050.4	2120.8	1992.3
35°	2608.7	2601.1	2519.2	2386.9	2253.1	2224.8	2195.7	2156.0	2204.9	2314.3	2152.1
37.5°	2773.9	2767.8	2667.6	2526.9	2406.1	2386.9	2362.5	2334.9	2413.7	2557.5	2368.6
40°	2958.2	2946.0	2819.8	2679.1	2584.3	2575.1	2562.1	2554.4	2681.4	2895.5	2642.4
42.5°	3167.0	3143.3	2980.4	2846.6	2778.5	2786.2	2779.3	2809.9	3004.1	3285.6	2968.2
45°	3405.6	3358.2	3140.3	3024.8	2993.4	3024.0	3038.5	3116.6	3385.8	3736.0	3332.2
47.5°	3629.0	3567.8	3315.4	3218.3	3235.9	3288.6	3329.9	3467.6	3804.1	4181.2	3703.9
50°	3834.7	3765.9	3502.8	3418.6	3504.3	3579.3	3664.9	3859.2	4249.2	4639.3	4045.0
52.5°	3986.9	3937.2	3690.2	3637.4	3812.5	3911.9	4048.8	4294.3	4698.9	5076.0	4349.4
55°	4104.7	4077.9	3872.9	3888.2	4161.3	4303.5	4469.5	4751.7	5174.6	5467.5	4594.1
57.5°	4240.8	4220.9	4081.7	4191.1	4594.1	4773.1	4968.9	5282.5	5627.4	5812.5	4786.1
60°	4384.6	4384.6	4314.2	4555.9	5135.6	5340.6	5535.6	5779.6	6078.6	6123.0	4864.1
62.5°	4493.2	4521.5	4546.7	4944.4	5649.6	5904.2	6118.4	6352.4	6545.9	6275.9	4680.6
65°	4650.7	4711.2	4853.4	5393.4	6285.9	6619.3	6908.4	7105.0	6924.5	6154.3	4081.7
67.5°	4921.5	5011.0	5313.8	6061.8	7260.2	7759.6	8040.3	7700.8	6850.3	5388.8	3126.5
70°	5165.4	5291.6	5809.4	6910.0	8526.7	9045.3	8916.0	7562.3	5966.2	3950.2	1923.5
72°	5003.3	5141.0	5832.4	7279.3	9203.6	9448.3	8766.9	6701.9	4610.2	2410.6	948.3
72.5°	4897.0	5040.0	5758.2	7270.2	9221.9	9397.1	8559.6	6360.1	4185.0	2109.3	767.1
75°	4090.9	4213.3	4951.3	6443.4	8126.7	7805.5	6679.7	4116.1	1923.5	681.4	394.6
77.5°	2671.4	2764.7	3414.1	4464.1	5692.4	5383.4	4065.7	1927.3	721.2	413.8	296.7
80°	1342.2	1408.8	1827.1	2347.2	3072.2	2826.7	1876.8	932.3	482.6	299.0	233.3
82.5°	933.8	995.0	1258.1	1198.4	1284.1	1242.8	882.6	777.8	361.0	188.9	122.4
85°	783.2	846.6	1040.9	854.3	699.0	637.1	632.5	735.0	238.6	93.3	103.2
87.5°	683.0	779.3	858.9	624.1	479.5	422.9	465.8	673.8	75.7	51.2	31.4
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°	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9	1739.9
2.5°	1706.3	1704.0	1692.5	1674.9	1661.9	1653.5	1637.4	1636.7	1638.2	1624.4	1629.8
5°	1658.1	1648.9	1619.1	1578.5	1545.7	1514.3	1479.9	1468.4	1458.5	1437.8	1440.1
7.5°	1607.6	1591.5	1539.5	1473.0	1409.5	1351.4	1294.0	1265.7	1244.3	1217.6	1217.6
10°	1577.8	1552.5	1473.0	1375.9	1274.9	1190.0	1104.4	1053.1	1015.7	981.2	978.9
12.5°	1576.2	1538.0	1427.1	1293.3	1154.8	1035.5	918.5	839.7	783.9	743.4	739.6
15°	1588.5	1534.9	1388.9	1216.0	1041.7	886.4	741.9	641.7	570.5	525.4	520.8
17.5°	1599.2	1531.1	1347.6	1135.0	931.5	742.6	582.0	478.0	410.7	374.0	370.2
20°	1609.1	1522.7	1294.8	1049.3	809.9	608.0	455.1	370.9	326.6	305.9	303.6
22.5°	1623.7	1515.1	1239.7	952.9	690.6	494.8	375.5	315.1	291.4	281.4	279.9
25°	1647.4	1515.8	1186.2	854.3	581.2	412.2	325.0	287.6	274.6	267.7	267.7
27.5°	1681.8	1525.0	1133.4	754.1	488.7	355.6	295.2	273.0	264.6	259.3	257.7
30°	1732.3	1541.8	1077.6	659.3	415.3	316.6	277.6	263.9	257.0	252.4	251.6
32.5°	1805.7	1571.7	1018.7	572.8	359.5	289.1	264.6	256.2	250.9	247.0	246.3
35°	1915.1	1624.4	961.4	499.4	319.7	269.2	253.9	247.0	244.0	242.4	241.7
37.5°	2075.7	1709.3	907.1	442.1	293.7	256.2	243.2	239.4	237.9	237.9	237.9
40°	2277.6	1821.0	858.1	401.5	279.2	246.3	235.6	232.5	232.5	233.3	233.3
42.5°	2523.1	1960.9	816.0	374.0	270.7	239.4	230.2	228.7	227.9	227.9	228.7
45°	2808.3	2126.1	790.0	352.6	264.6	235.6	226.4	225.6	222.6	221.0	221.0
47.5°	3095.1	2302.8	788.5	340.3	257.0	231.0	222.6	222.6	216.4	213.4	214.1
50°	3362.8	2461.1	805.3	337.3	252.4	224.1	218.7	219.5	211.1	207.3	206.5
52.5°	3578.5	2582.0	826.0	341.1	252.4	218.0	211.8	215.7	206.5	201.9	201.1
55°	3745.2	2666.1	833.6	349.5	255.4	212.6	205.7	211.8	205.0	198.8	198.8
57.5°	3864.5	2692.9	800.7	353.3	260.0	211.8	199.6	211.1	207.3	199.6	199.6
60°	3820.9	2537.6	678.4	338.8	259.3	210.3	195.0	212.6	214.9	206.5	206.5
62.5°	3480.6	2123.1	544.5	305.9	246.3	205.0	189.7	211.1	220.3	217.2	215.7
65°	2833.6	1557.1	422.2	266.9	224.1	193.5	178.2	197.3	208.0	211.1	211.8
67.5°	1996.9	985.8	328.1	227.1	196.6	176.7	165.2	174.4	178.2	179.7	182.8
70°	1092.1	533.8	260.8	191.2	168.3	159.8	151.4	152.2	150.7	149.1	150.7
72°	548.4	348.7	220.3	166.0	149.1	143.8	140.0	137.7	137.7	135.4	136.1
72.5°	471.9	324.3	212.6	159.8	144.5	140.0	136.9	134.6	133.8	132.3	133.1
75°	314.3	257.0	177.4	133.8	123.1	120.1	121.6	119.3	120.1	118.5	119.3
77.5°	253.9	221.0	150.7	113.2	105.5	101.0	104.0	104.8	106.3	104.8	104.0
80°	212.6	188.1	126.2	93.3	88.0	84.1	85.7	91.0	91.8	87.2	86.4
82.5°	137.7	151.4	99.4	72.7	67.3	65.8	69.6	75.0	76.5	70.4	68.8
85°	115.5	121.6	71.9	49.7	44.4	42.8	50.5	55.8	59.7	53.5	52.0
87.5°	32.1	59.7	35.2	23.7	19.9	19.9	24.5	29.1	34.4	35.2	35.2
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)