

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: INVUE

Report Number: P368076

Luminaire Tested: **MSA-SA3D-730-U-RW**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368076
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-730-U-RW
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS
EACH AND RECTANGULAR WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18616 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B4 - U0 - G4

Input Watts (W): 192
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: 28.75 FT

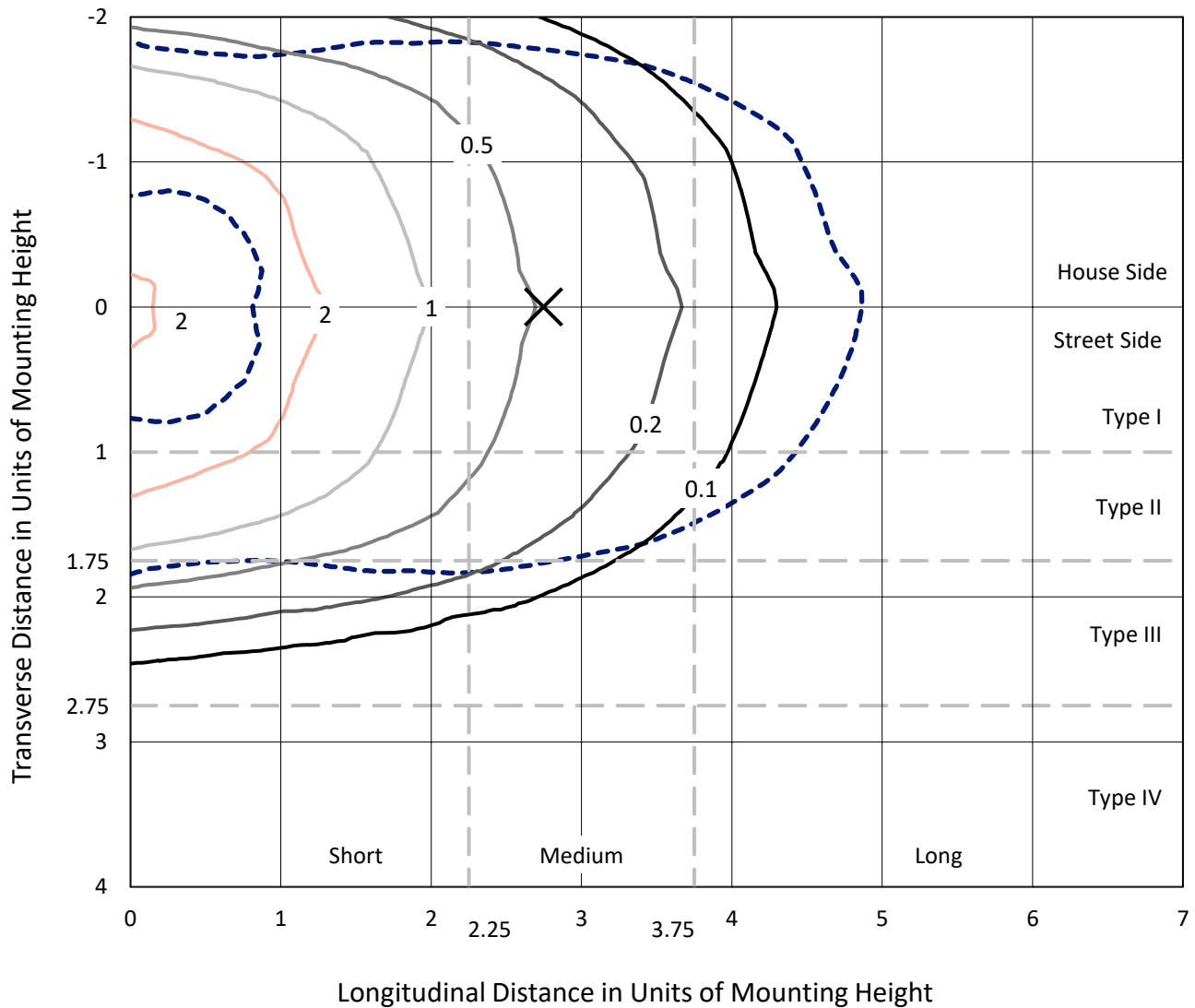


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

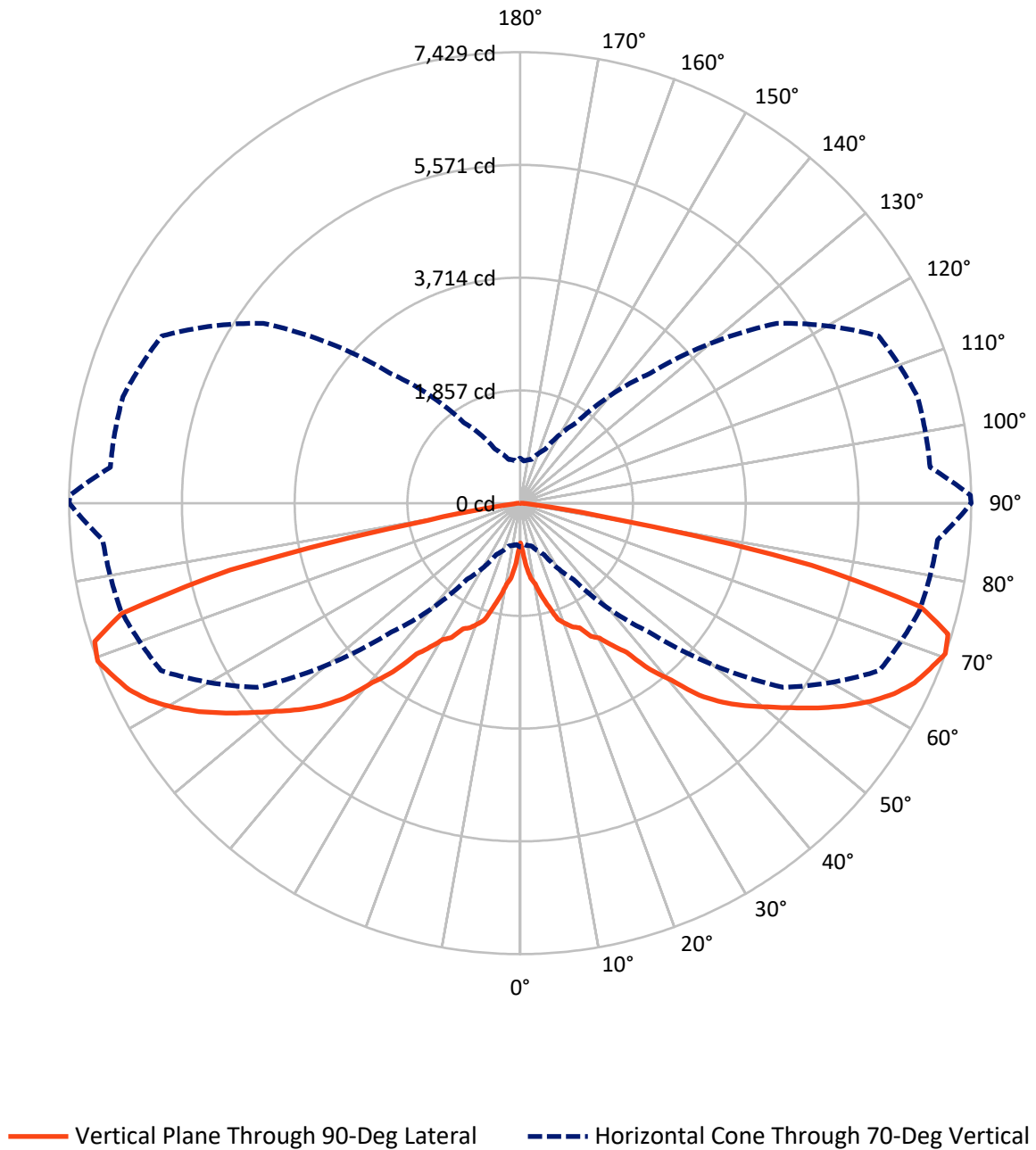


Based on 25 foot mounting height. Maximum calculated value = 3 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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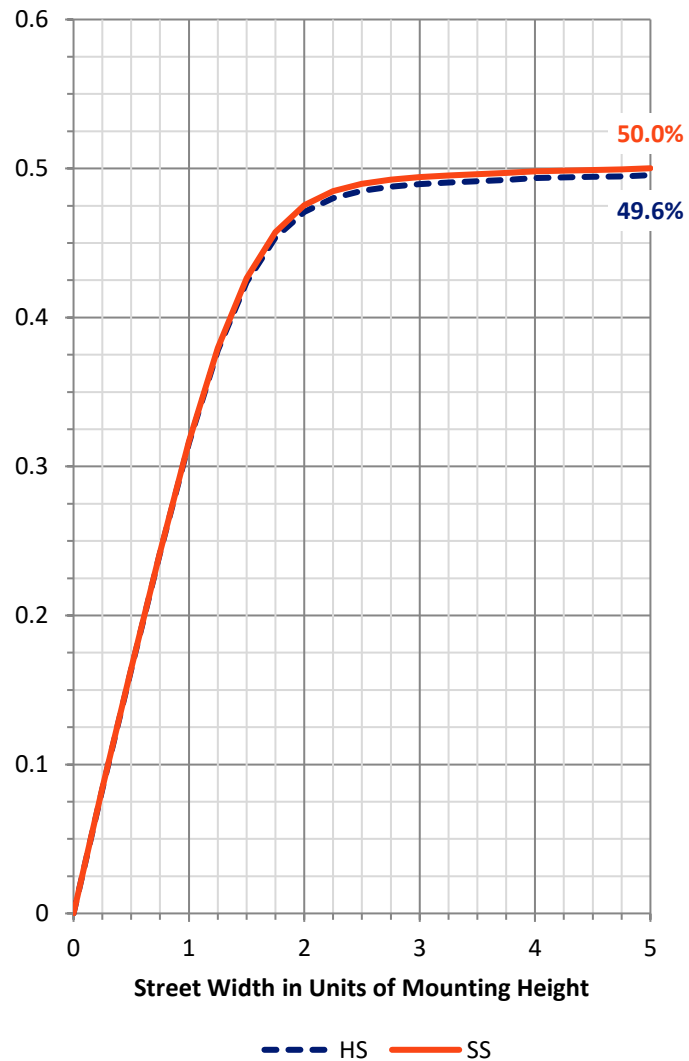
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9273.5	0.0	9273.5
	% Fixture	49.8	0.0	49.8
Street Side	Lumens	9342.5	0.0	9342.5
	% Fixture	50.2	0.0	50.2
Total	Lumens	18616.0	0.0	18616.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.5	0.5
10°-20°	451.7	2.4
20°-30°	976.7	5.2
30°-40°	1863.5	10.0
40°-50°	3385.3	18.2
50°-60°	4755.6	25.5
60°-70°	4540.7	24.4
70°-80°	2330.3	12.5
80°-90°	213.6	1.1
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°	18616.0	100.0
0°-180°	18616.0	100.0

Coefficient of Utilization



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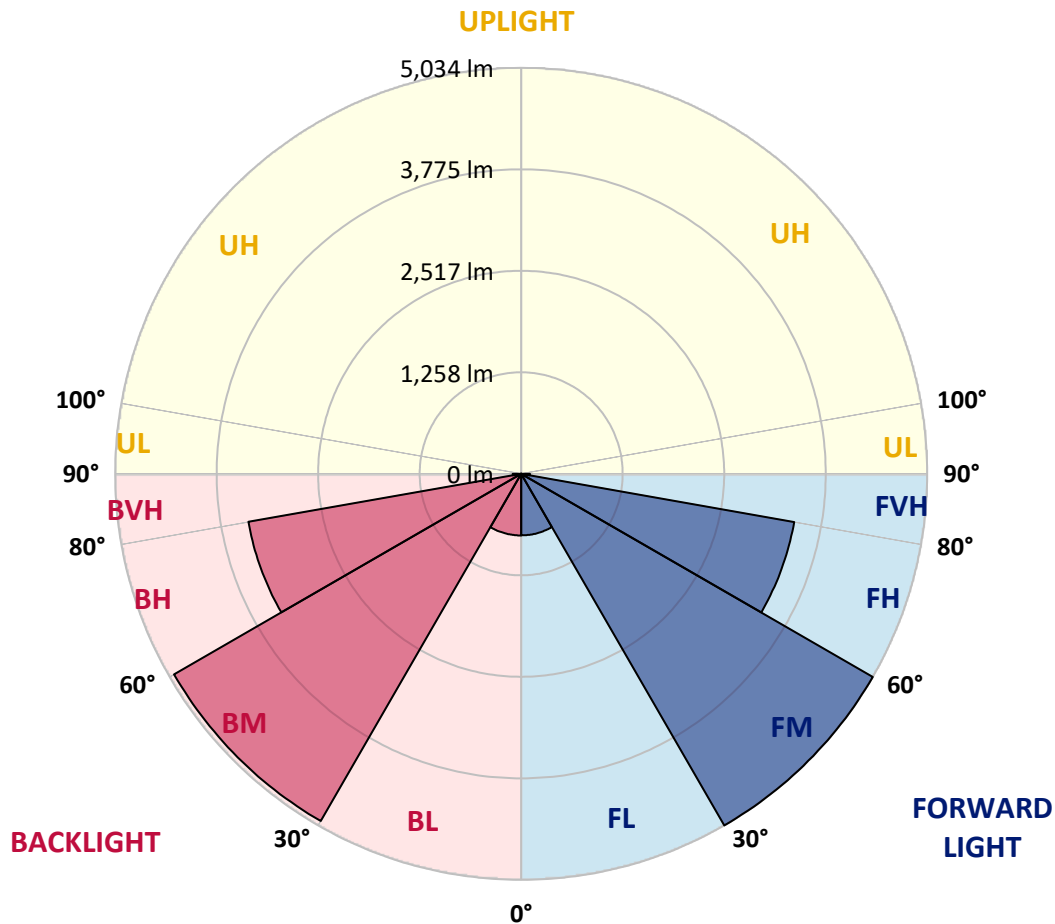
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	762.8	4.1			
FM	(30°-60°)	5034.0	27.0			
FH	(60°-80°)	3437.3	18.5			G2/5000
FVH	(80°-90°)	108.4	0.6			G2/225
BL	(0°-30°)	764.3	4.1	B2/1000		
BM	(30°-60°)	4970.4	26.7	B3/5000		
BH	(60°-80°)	3433.6	18.4	B4/5000		G4/5000
BVH	(80°-90°)	105.2	0.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4
2.5°	791.4	762.0	725.1	746.9	756.0	771.8	769.6	762.0	729.6	783.9	789.9
5°	990.6	943.9	926.5	923.5	928.0	912.9	962.0	947.6	974.0	1023.1	1034.4
7.5°	1127.9	1093.2	1056.3	1067.6	1020.8	1014.0	1077.4	1134.0	1148.3	1238.1	1244.1
10°	1192.8	1158.9	1168.7	1161.9	1156.6	1200.4	1229.8	1271.3	1330.9	1339.2	1352.0
12.5°	1247.9	1261.5	1304.5	1303.0	1373.9	1451.6	1440.3	1483.3	1493.1	1597.2	1565.5
15°	1387.5	1415.4	1412.4	1438.8	1469.7	1597.2	1598.0	1671.2	1738.3	1779.1	1768.5
17.5°	1592.0	1601.8	1561.0	1562.5	1652.3	1704.4	1762.5	1749.6	1924.7	2004.7	2009.9
20°	1714.2	1739.1	1692.3	1630.4	1789.6	1861.3	1893.7	1819.1	2006.2	2114.1	2114.1
22.5°	1927.7	1863.6	1792.6	1751.1	1891.5	1967.7	1963.9	1942.8	2042.4	2233.3	2215.2
25°	2045.4	2009.2	1973.7	1984.3	2055.2	2094.4	2146.5	2097.5	2191.0	2332.9	2273.2
27.5°	2268.7	2201.6	2027.3	2166.1	2166.1	2136.7	2246.8	2270.2	2209.1	2440.0	2484.5
30°	2521.5	2498.1	2251.4	2398.5	2353.2	2270.2	2481.5	2466.4	2363.8	2599.2	2578.8
32.5°	2760.6	2837.6	2603.7	2523.0	2590.9	2622.6	2511.7	2556.9	2576.5	2803.6	2793.8
35°	3127.3	3192.2	2882.1	2861.7	2748.6	2719.1	2803.6	2818.7	2820.2	3059.4	3015.7
37.5°	3761.8	3668.3	3362.0	3217.9	3230.7	3195.2	3211.8	3092.6	3109.2	3456.3	3478.2
40°	4225.8	4120.2	3779.2	3675.8	3422.3	3574.0	3439.7	3427.6	3394.4	3844.1	3832.0
42.5°	4738.1	4593.3	4216.0	4078.0	3808.6	3746.7	3684.9	3824.5	3815.4	4231.9	4323.9
45°	5125.2	4832.4	4635.5	4549.5	4388.1	4236.4	4177.6	4240.2	4211.5	4520.8	4681.5
47.5°	5369.6	5115.4	4889.0	4708.0	4553.3	4925.2	4627.2	4543.5	4485.4	4831.7	4986.4
50°	5564.3	5270.8	5003.7	4943.4	5065.6	5394.5	4924.5	4739.6	4810.6	5065.6	5276.1
52.5°	5617.1	5306.3	5066.3	5027.9	5358.3	5417.9	5341.7	5030.9	5012.0	5346.2	5600.5
55°	5455.6	5157.6	5043.7	5254.2	5619.4	5569.6	5685.8	5487.3	5353.8	5632.9	5952.8
57.5°	5039.9	4744.2	4717.0	5020.3	5480.5	5904.6	5961.9	5805.0	5629.9	5925.7	6302.9
60°	4357.1	4087.0	4155.7	4490.7	5184.8	5788.4	6093.2	5949.8	5895.5	6189.8	6627.3
62.5°	3294.1	3083.6	3266.9	3733.9	4644.6	5638.2	6274.3	6251.6	6173.2	6470.4	6914.1
65°	2100.5	1989.6	2176.7	2651.2	3806.4	5365.1	6361.0	6391.2	6463.6	6687.0	7135.9
67.5°	1220.7	1161.9	1275.8	1664.4	2710.8	4405.4	6199.6	6632.6	6670.4	6798.6	7281.5
70°	722.0	683.6	730.3	934.8	1534.6	3001.3	5288.1	6527.0	6812.2	6901.2	7428.6
72.5°	550.8	514.6	494.2	553.0	801.3	1550.5	3575.5	5532.6	6698.3	6833.3	7366.7
75°	476.1	441.4	417.2	422.5	476.8	736.4	1938.3	3957.2	5707.6	6222.2	6804.7
77.5°	408.9	378.0	360.6	359.1	365.9	404.4	810.3	2145.7	3574.7	4472.6	4905.6
80°	327.4	303.3	299.5	299.5	289.7	286.7	402.9	816.3	1360.3	1613.1	1546.7
82.5°	239.2	215.0	239.2	236.2	221.1	209.0	256.5	353.1	419.5	331.2	261.8
85°	161.5	139.6	157.7	160.7	146.4	108.6	153.9	176.5	181.1	113.2	93.6
87.5°	56.6	55.1	89.0	77.7	63.4	37.0	56.6	61.1	64.1	40.0	27.2
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):

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4	653.4
2.5°	792.2	783.1	737.9	744.7	762.0	770.3	778.6	744.7	728.1	780.9	775.6
5°	1037.4	1004.2	967.2	962.0	964.2	931.8	950.6	942.3	946.1	980.1	986.9
7.5°	1242.6	1202.6	1153.6	1115.1	1048.7	995.9	1040.4	1063.1	1069.9	1130.2	1152.8
10°	1353.5	1319.6	1305.2	1232.8	1210.9	1204.1	1193.6	1157.4	1197.4	1183.0	1194.3
12.5°	1570.8	1564.0	1489.3	1441.8	1446.3	1459.2	1392.8	1356.6	1304.5	1386.0	1356.6
15°	1755.7	1785.1	1710.4	1623.6	1580.6	1602.5	1552.0	1499.2	1452.4	1477.3	1445.6
17.5°	1991.8	1991.1	1845.5	1752.7	1748.9	1747.4	1672.7	1556.5	1612.3	1595.0	1596.5
20°	2117.1	2096.7	1915.6	1808.5	1899.8	1867.3	1800.2	1650.8	1715.7	1736.8	1750.4
22.5°	2221.9	2210.6	1991.1	1912.6	1971.5	1972.2	1905.1	1826.6	1818.3	1883.9	1848.5
25°	2295.1	2340.4	2133.7	2114.8	2140.5	2114.8	2049.2	1997.9	1964.7	2062.7	1964.7
27.5°	2468.7	2404.5	2155.5	2262.7	2278.5	2149.5	2231.8	2171.4	2079.3	2200.8	2240.8
30°	2592.4	2630.1	2309.5	2470.9	2452.1	2332.9	2366.8	2364.5	2254.4	2491.3	2463.4
32.5°	2805.2	2759.9	2560.7	2547.9	2593.1	2587.9	2530.5	2558.4	2585.6	2757.6	2799.1
35°	3023.2	3071.5	2721.4	2808.2	2795.3	2713.9	2864.0	2846.7	2927.4	3280.5	3163.5
37.5°	3515.1	3285.0	3082.0	3070.7	3156.7	3169.6	3121.3	3197.5	3371.8	3643.4	3768.6
40°	3837.3	3732.4	3387.6	3401.2	3282.0	3487.2	3351.4	3596.6	3729.4	4187.4	4142.8
42.5°	4324.7	4068.9	3737.7	3783.0	3758.8	3660.0	3838.8	3964.8	4154.9	4504.2	4729.8
45°	4687.6	4336.7	4179.8	4151.9	4148.9	4320.9	4298.3	4499.7	4567.6	4830.2	5017.3
47.5°	4963.0	4664.9	4432.6	4464.3	4372.2	4863.4	4601.6	4664.2	4801.5	5049.0	5267.0
50°	5289.7	4957.7	4693.6	4772.1	4996.2	5184.8	4947.9	4840.7	4907.9	5199.9	5442.8
52.5°	5592.2	5242.9	4952.4	5018.0	5384.0	5298.0	5272.3	5001.4	4993.1	5227.8	5503.9
55°	5946.1	5552.2	5295.7	5503.9	5633.7	5527.3	5486.6	5156.9	4953.2	5083.7	5344.0
57.5°	6293.1	5858.5	5603.5	5646.5	5811.0	5705.4	5399.8	4892.0	4637.8	4663.4	4926.8
60°	6618.3	6140.0	5929.5	5888.0	6019.2	5605.0	5070.1	4406.9	4069.7	4007.8	4235.6
62.5°	6896.7	6375.4	6176.2	6063.0	6188.2	5608.8	4556.3	3628.3	3257.8	3048.1	3225.4
65°	7117.8	6570.8	6428.9	6370.1	6415.3	5267.8	3755.8	2664.1	2209.9	1977.5	2080.9
67.5°	7264.9	6680.2	6615.3	6692.2	6088.7	4387.3	2782.5	1705.1	1284.9	1158.1	1223.0
70°	7417.3	6776.7	6774.5	6512.7	5162.9	3024.7	1625.1	983.1	747.7	698.6	739.4
72.5°	7366.0	6662.1	6696.0	5695.6	3577.7	1616.9	857.8	556.1	506.3	523.6	559.8
75°	6821.3	6057.0	5893.2	4094.6	2029.6	751.5	494.2	421.0	418.0	444.4	479.8
77.5°	4947.9	4218.3	3785.2	2320.8	869.9	406.7	363.7	351.6	351.6	372.7	404.4
80°	1631.2	1411.6	1471.2	897.8	411.2	280.7	283.7	289.0	287.5	292.7	319.1
82.5°	267.8	277.6	429.3	366.7	248.2	191.6	214.3	224.8	227.9	203.7	231.6
85°	95.1	107.1	182.6	169.8	143.4	96.6	141.1	157.7	155.4	135.8	150.1
87.5°	29.4	37.7	66.4	51.3	43.0	26.4	52.8	61.9	77.7	31.7	28.7
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)