

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: P143950

Luminaire Tested: **LDRL-5WQ-E04-E**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P143950  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33698)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-5WQ-E04-E  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 5 SQUARE WIDE  
Light Source: (84) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12262.2 lumens  
Efficiency: N/A  
Efficacy: 126.2 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')  
IES Classification: Type V - Short - Semi-Cutoff  
BUG Rating: B4 - U0 - G2

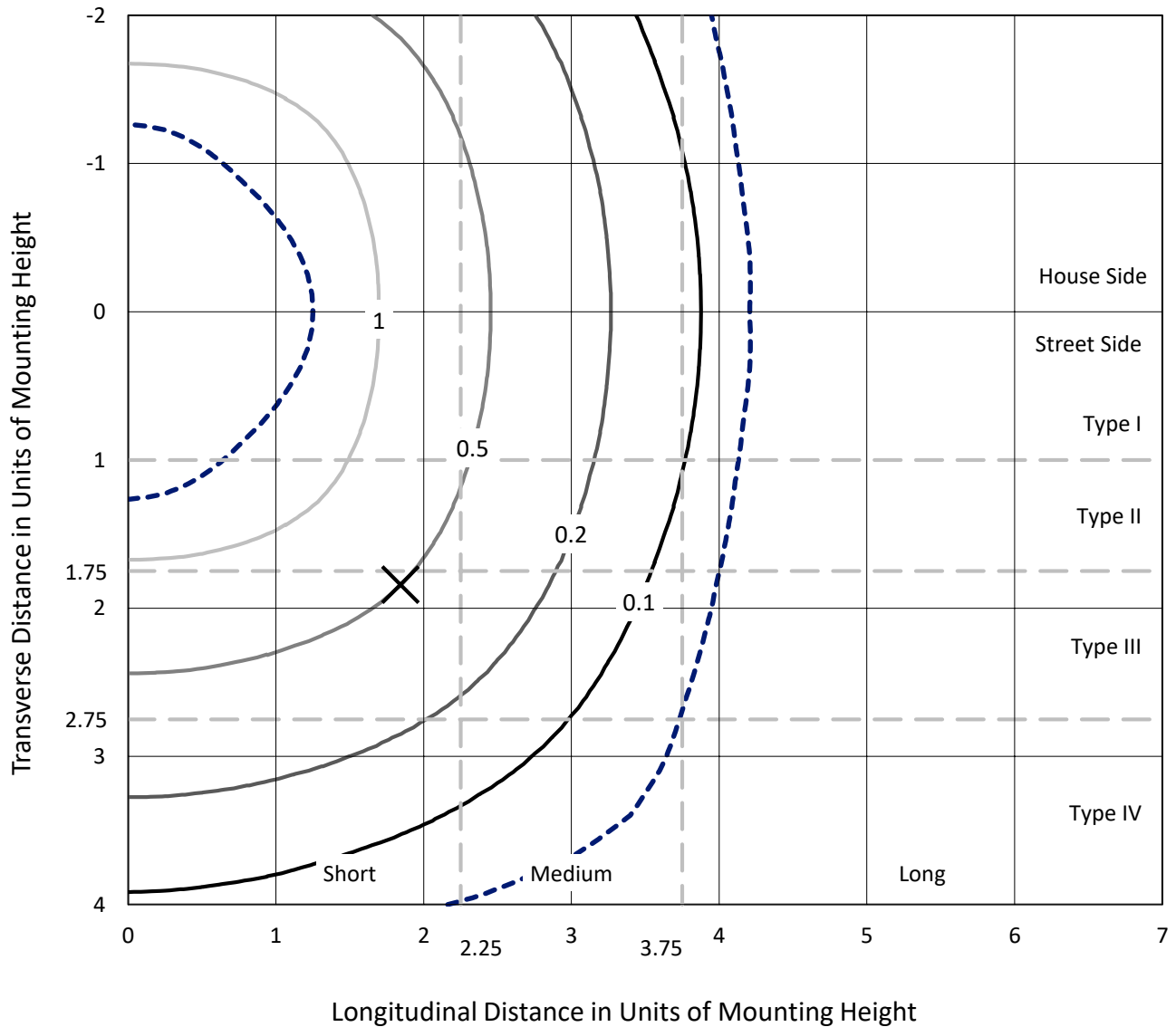
Input Watts (W): 97.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P143950  
 CATALOG NUMBER: LDRL-5WQ-E04-E

### Iso-Footcandle Lines of Horizontal Illumination

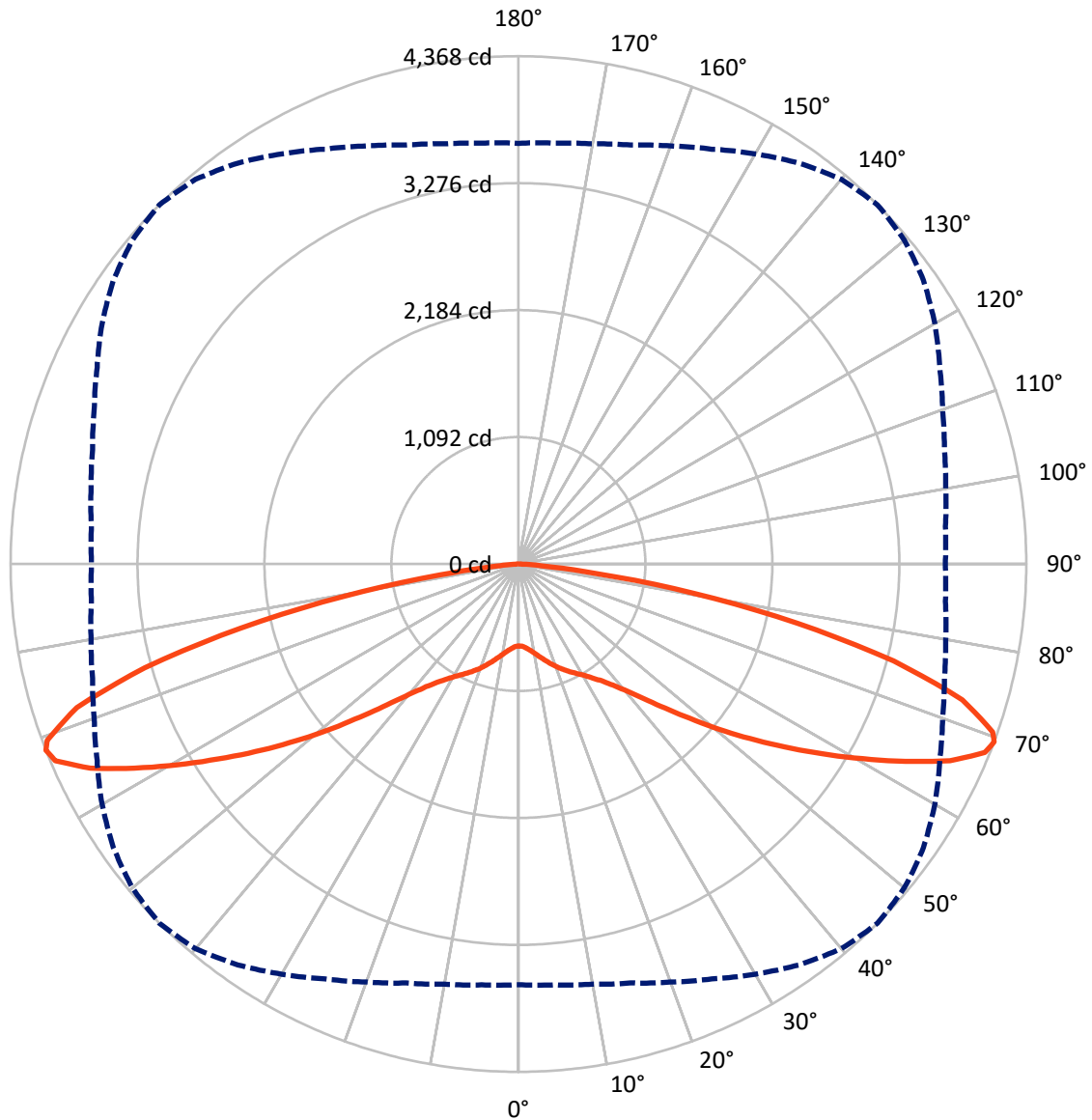
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 2 fc  
 Type V - Short - Semi-Cutoff

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CATALOG NUMBER: LDRL-5WQ-E04-E

### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P143950

CATALOG NUMBER: LDRL-5WQ-E04-E

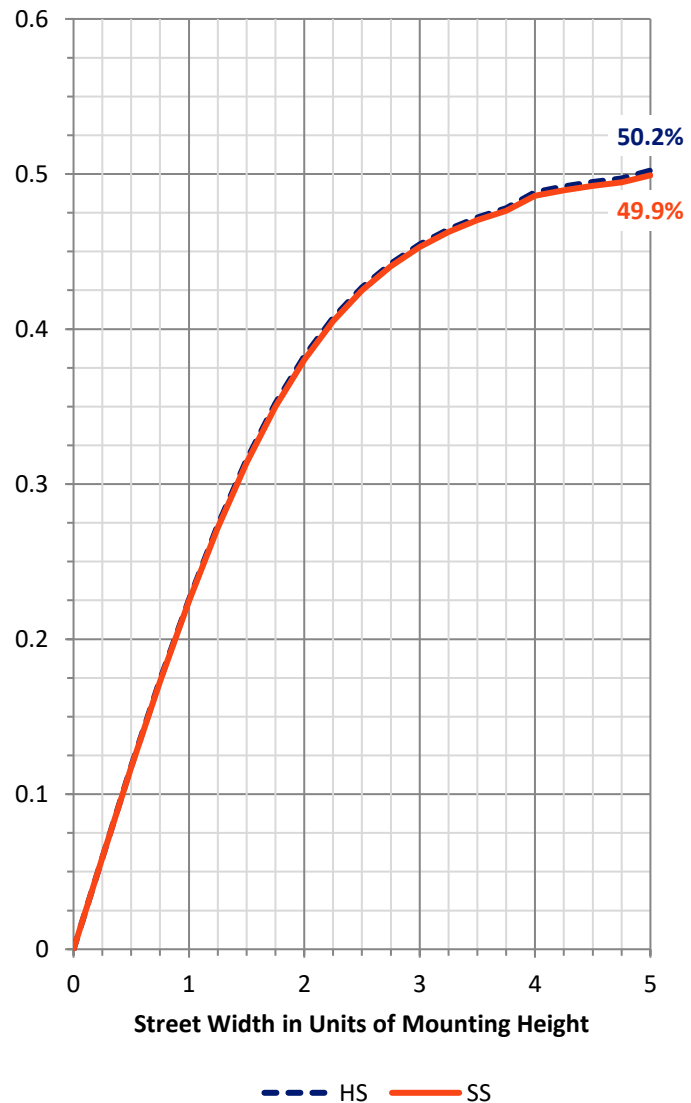
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6131.1	0.0	6131.1
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6131.1	0.0	6131.1
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	12262.2	0.0	12262.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.1	0.6
10°-20°	245.0	2.0
20°-30°	472.3	3.9
30°-40°	774.0	6.3
40°-50°	1345.9	11.0
50°-60°	2390.7	19.5
60°-70°	3711.8	30.3
70°-80°	2957.3	24.1
80°-90°	294.1	2.4
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°	12262.2	100.0
0°-180°	12262.2	100.0



REPORT NUMBER: P143950

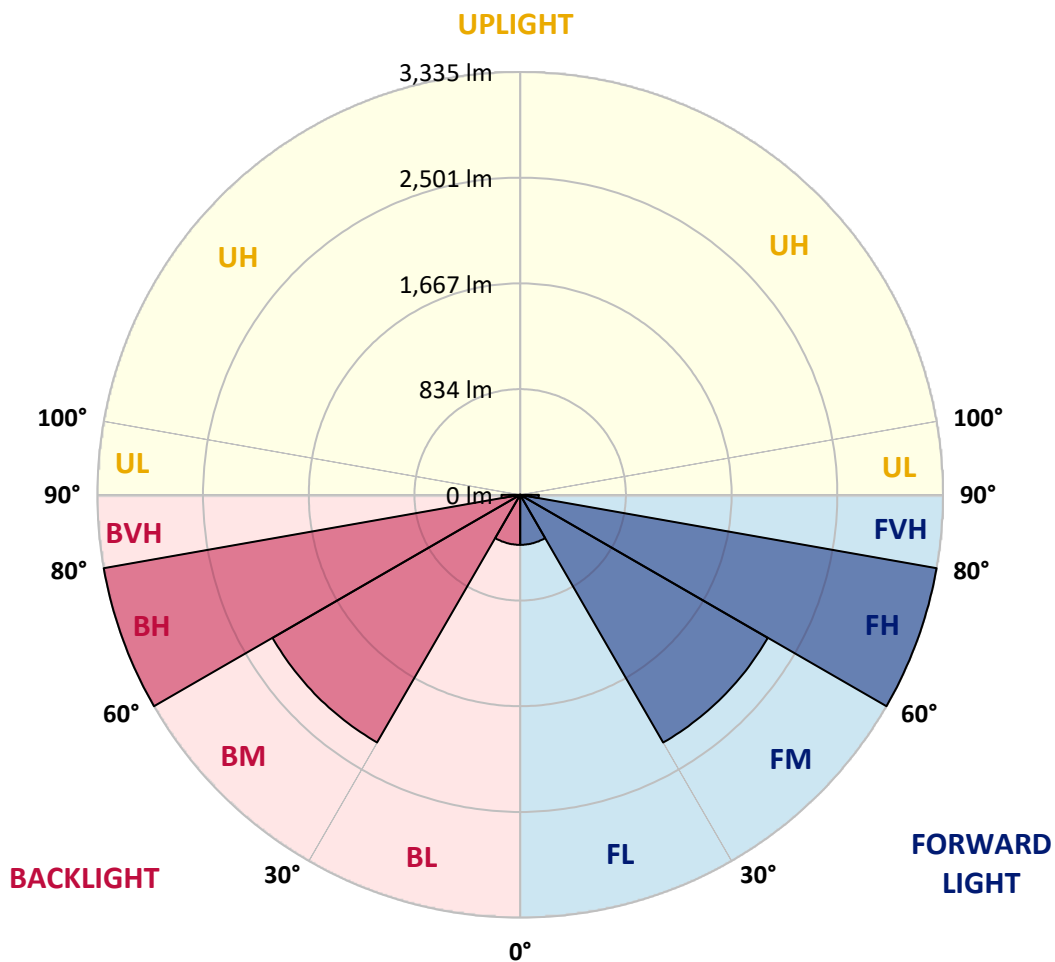
CATALOG NUMBER: LDRL-5WQ-E04-E

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	394.2	3.2			
FM	(30°-60°)	2255.3	18.4			
FH	(60°-80°)	3334.5	27.2			G2/5000
FVH	(80°-90°)	147.0	1.2			G2/225
BL	(0°-30°)	394.2	3.2	B1/500		
BM	(30°-60°)	2255.3	18.4	B2/2500		
BH	(60°-80°)	3334.5	27.2	B4/5000		G2/5000
BVH	(80°-90°)	147.0	1.2			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G2**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	704.8	704.8	704.8	704.8	704.8	704.8	704.8	704.8	704.8	704.8	704.8
2.5°	710.4	710.4	710.4	709.6	709.6	708.8	709.6	708.8	708.8	708.8	708.8
5°	728.8	727.2	727.2	726.4	728.0	728.0	726.4	727.2	726.4	727.2	727.2
7.5°	752.0	752.0	752.0	751.2	752.8	752.0	751.2	752.0	752.0	751.2	751.2
10°	780.8	781.6	780.8	780.8	783.2	782.4	783.2	783.2	784.0	783.2	783.2
12.5°	814.4	814.4	815.2	816.0	816.8	817.6	820.0	819.2	820.8	819.2	819.2
15°	853.6	855.2	853.6	853.6	856.0	857.6	858.4	858.4	860.0	859.2	857.6
17.5°	895.2	896.0	895.2	894.4	896.8	899.2	900.0	900.0	902.4	900.8	900.8
20°	937.6	938.4	936.8	936.0	939.2	939.2	940.8	941.6	944.0	944.8	942.4
22.5°	976.8	977.6	976.8	976.0	979.2	979.2	981.6	982.4	985.6	984.8	984.8
25°	1015.2	1015.2	1014.4	1014.4	1017.6	1018.4	1020.8	1022.4	1025.6	1025.6	1025.6
27.5°	1050.4	1051.2	1049.6	1048.8	1055.2	1057.6	1059.2	1062.4	1064.8	1066.4	1065.6
30°	1090.4	1090.4	1089.6	1092.0	1096.0	1099.2	1102.4	1107.2	1112.0	1110.4	1110.4
32.5°	1137.6	1139.2	1138.4	1141.6	1146.4	1151.2	1155.2	1160.8	1163.2	1167.2	1164.0
35°	1200.8	1204.0	1202.4	1205.6	1209.6	1212.8	1221.6	1227.2	1231.2	1233.6	1232.0
37.5°	1280.0	1278.4	1281.6	1282.4	1290.4	1294.4	1304.8	1312.8	1319.2	1321.6	1320.0
40°	1378.4	1376.0	1380.0	1384.0	1394.4	1398.4	1410.4	1422.4	1431.2	1434.4	1432.8
42.5°	1496.0	1499.2	1505.6	1511.2	1525.6	1536.8	1550.4	1568.0	1577.6	1581.6	1576.0
45°	1650.4	1644.8	1656.8	1671.2	1679.2	1704.0	1726.4	1744.8	1760.8	1767.2	1760.8
47.5°	1826.4	1825.6	1840.0	1857.6	1878.4	1901.6	1928.0	1952.0	1980.0	1981.6	1973.6
50°	2020.8	2036.8	2044.8	2062.4	2100.8	2129.6	2163.2	2199.2	2224.8	2232.8	2218.4
52.5°	2255.2	2267.2	2272.0	2301.6	2336.8	2372.0	2419.2	2462.4	2492.0	2495.2	2488.0
55°	2509.6	2519.2	2528.0	2564.0	2602.4	2633.6	2693.6	2736.0	2765.6	2776.8	2772.0
57.5°	2772.8	2781.6	2792.8	2832.0	2871.2	2915.2	2972.0	3021.6	3056.0	3076.8	3071.2
60°	3064.8	3064.8	3090.4	3129.6	3161.6	3213.6	3272.8	3330.4	3368.0	3400.8	3392.0
62.5°	3372.0	3380.8	3405.6	3437.6	3471.2	3519.2	3586.4	3655.2	3712.8	3737.6	3736.8
65°	3604.8	3620.8	3653.6	3690.4	3746.4	3803.2	3888.0	3973.6	4043.2	4079.2	4079.2
67.5°	3672.8	3683.2	3724.0	3780.0	3860.8	3951.2	4066.4	4185.6	4280.8	4328.0	4298.4
69°	3618.4	3633.6	3669.6	3730.4	3826.4	3936.8	4073.6	4208.8	4319.2	4368.0	4333.6
70°	3555.2	3572.0	3608.0	3668.0	3767.2	3884.8	4021.6	4167.2	4285.6	4327.2	4288.0
72.5°	3297.6	3318.4	3344.0	3396.0	3485.6	3596.0	3719.2	3847.2	3960.8	3993.6	3944.8
75°	2858.4	2862.4	2875.2	2913.6	2945.6	3024.0	3128.8	3230.4	3316.0	3335.2	3283.2
77.5°	2023.2	2001.6	1980.0	2012.8	2038.4	2139.2	2252.8	2336.0	2425.6	2452.8	2400.0
80°	887.2	879.2	909.6	952.8	1065.6	1132.8	1244.0	1363.2	1439.2	1528.0	1432.8
82.5°	175.2	184.8	213.6	264.0	325.6	409.6	482.4	564.8	639.2	672.8	638.4
85°	71.2	77.6	88.0	98.4	105.6	118.4	139.2	172.8	190.4	192.8	183.2
87.5°	29.6	34.4	46.4	55.2	56.0	53.6	55.2	56.8	46.4	37.6	47.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P143950  
 CATALOG NUMBER: LDRL-5WQ-E04-E

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	704.8	704.8	704.8	704.8	704.8	704.8	704.8	704.8
2.5°	708.8	709.6	708.8	709.6	708.8	708.8	709.6	708.8
5°	726.4	727.2	726.4	725.6	724.8	725.6	725.6	725.6
7.5°	751.2	750.4	749.6	749.6	748.8	748.0	749.6	749.6
10°	781.6	780.8	779.2	779.2	778.4	778.4	778.4	778.4
12.5°	818.4	816.0	815.2	812.8	812.0	811.2	811.2	812.0
15°	856.8	854.4	853.6	849.6	849.6	848.8	848.8	848.8
17.5°	897.6	895.2	892.0	892.0	889.6	888.0	888.8	887.2
20°	939.2	936.0	934.4	933.6	930.4	930.4	930.4	929.6
22.5°	980.0	977.6	975.2	972.0	968.8	968.0	968.0	967.2
25°	1021.6	1017.6	1012.8	1009.6	1006.4	1004.0	1004.0	1004.0
27.5°	1063.2	1058.4	1051.2	1047.2	1042.4	1040.0	1040.0	1039.2
30°	1107.2	1101.6	1095.2	1089.6	1083.2	1080.8	1080.0	1078.4
32.5°	1160.0	1154.4	1148.0	1140.0	1133.6	1129.6	1129.6	1127.2
35°	1227.2	1220.8	1216.0	1205.6	1197.6	1191.2	1192.0	1193.6
37.5°	1315.2	1307.2	1303.2	1290.4	1280.0	1273.6	1273.6	1272.8
40°	1427.2	1419.2	1410.4	1398.4	1385.6	1376.8	1374.4	1374.4
42.5°	1569.6	1562.4	1550.4	1533.6	1518.4	1508.8	1500.8	1501.6
45°	1748.0	1739.2	1722.4	1701.6	1683.2	1669.6	1658.4	1658.4
47.5°	1964.8	1946.4	1923.2	1904.8	1873.6	1852.8	1844.8	1843.2
50°	2212.0	2177.6	2148.8	2122.4	2089.6	2068.0	2056.0	2052.8
52.5°	2471.2	2435.2	2399.2	2364.8	2324.8	2302.4	2283.2	2281.6
55°	2752.8	2707.2	2661.6	2628.0	2580.8	2557.6	2538.4	2527.2
57.5°	3040.0	2988.8	2956.0	2908.0	2858.4	2841.6	2823.2	2809.6
60°	3363.2	3307.2	3264.0	3213.6	3181.6	3145.6	3128.0	3117.6
62.5°	3693.6	3641.6	3586.4	3538.4	3493.6	3468.8	3444.8	3432.8
65°	4029.6	3944.0	3878.4	3812.0	3759.2	3714.4	3676.8	3672.0
67.5°	4236.0	4128.0	4018.4	3921.6	3844.0	3780.8	3742.4	3728.8
69°	4252.8	4135.2	3998.4	3882.4	3792.8	3732.0	3686.4	3672.0
70°	4206.4	4088.0	3944.0	3819.2	3726.4	3660.0	3622.4	3598.4
72.5°	3867.2	3763.2	3624.8	3501.6	3417.6	3340.0	3302.4	3292.8
75°	3190.4	3080.0	2952.8	2893.6	2835.2	2786.4	2760.8	2758.4
77.5°	2265.6	2152.8	2056.0	1978.4	1915.2	1884.0	1891.2	1864.8
80°	1296.8	1149.6	1032.8	964.0	870.4	814.4	751.2	796.8
82.5°	557.6	450.4	343.2	279.2	212.8	168.8	139.2	129.6
85°	156.0	127.2	106.4	97.6	88.0	78.4	66.4	61.6
87.5°	52.8	50.4	44.8	44.8	40.8	34.4	24.0	21.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)