



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD4AERNG-L44-835-A-DIM-UNV AMBIENT, EXAM, AND READING\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN from BALLABS TEST NO. 18937.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 19-AUG-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 2x4' MULTI COMPARTMENT LED TROFFER  
 [MORE] FROSTED ACRYLIC DIFFUSER  
 [LUMCAT] AMD4AERNG-L44-835-A-DIM-UNV AMBIENT, EXAM, & READING ONLY  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [SEARCH\_SOURCETYPE] LED  
 [SEARCH\_APPLICATION] INDOOR,DIRECT,MEDICAL  
 [SEARCH\_MOUNTING] RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	14408
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	124
Total Luminaire Watts	116.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7821	7564	6984
55	7036	6842	5930
65	5609	6034	4804
75	3453	4111	3520
85	2401	2720	2782

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
<b>0</b>	5958.836	5958.836	5958.836	5958.836	5958.836	5958.836	5958.836	5958.836	5958.836
<b>5</b>	5954.037	5952.925	5942.505	5920.780	5901.109	5871.217	5846.471	5823.844	5812.559
<b>10</b>	5902.307	5904.210	5889.464	5865.391	5824.001	5773.499	5719.105	5676.026	5653.472
<b>15</b>	5702.125	5697.874	5690.094	5666.868	5605.863	5535.742	5454.698	5390.210	5369.684
<b>20</b>	5562.669	5553.108	5549.216	5526.623	5458.105	5359.367	5243.614	5152.523	5118.713
<b>25</b>	5106.978	5106.590	5089.315	5054.355	4977.563	4867.485	4745.509	4646.110	4602.096
<b>30</b>	4797.831	4791.159	4773.791	4726.419	4640.320	4525.102	4395.932	4287.339	4231.015
<b>35</b>	4514.855	4500.079	4468.370	4404.648	4294.974	4191.968	4068.825	3961.143	3909.832
<b>40</b>	4143.265	4115.334	4053.057	3958.818	3831.829	3738.897	3645.234	3552.623	3511.369
<b>45</b>	3861.460	3827.430	3734.684	3585.393	3448.417	3376.835	3318.580	3251.280	3202.689
<b>50</b>	3336.729	3314.794	3211.045	3028.257	2882.281	2837.253	2817.649	2767.544	2701.689
<b>55</b>	2818.022	2814.440	2740.254	2532.047	2374.931	2370.989	2387.134	2312.620	2233.580
<b>60</b>	2185.277	2222.544	2233.898	2027.616	1848.006	1877.899	1934.478	1790.936	1687.571
<b>65</b>	1655.043	1707.990	1780.551	1613.702	1417.708	1483.599	1534.820	1366.214	1274.025
<b>70</b>	1082.845	1152.364	1234.292	1145.706	988.843	1045.547	1049.467	928.306	841.226
<b>75</b>	624.024	683.406	743.019	728.518	636.133	655.200	624.269	567.772	500.118
<b>80</b>	333.774	369.718	402.142	417.794	381.713	377.518	345.346	324.285	294.535
<b>85</b>	146.114	156.373	165.510	171.569	169.333	157.106	156.211	151.199	141.975
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>135</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>140</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>145</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>150</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>155</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>160</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>165</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>170</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>175</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>180</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : AMD4AERNG-L44-835-A-DIM-UNV AMBIENT, EXAM, AND READING\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2139.00	N.A.	14.80
0-30	4423.08	N.A.	30.70
0-40	7077.47	N.A.	49.10
0-60	11982.84	N.A.	83.20
0-80	14221.62	N.A.	98.70
0-90	14407.93	N.A.	100.00
10-90	13847.83	N.A.	96.10
20-40	4938.47	N.A.	34.30
20-50	7611.56	N.A.	52.80
40-70	6424.29	N.A.	44.60
60-80	2238.78	N.A.	15.50
70-80	719.87	N.A.	5.00
80-90	186.30	N.A.	1.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	14407.93	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	560.10
10-20	1578.9
20-30	2284.08
30-40	2654.38
40-50	2673.09
50-60	2232.29
60-70	1518.91
70-80	719.87
80-90	186.30
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32
9	58	45	37	32	57	44	37	32	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	28	38	33	28	27

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## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	19.1	20.6	19.4	21.0	21.3	18.1	19.7	18.5	20.0	20.3
	3H	20.4	21.8	20.7	22.1	22.5	19.5	20.9	19.9	21.3	21.6
	4H	20.7	22.0	21.1	22.4	22.8	19.9	21.3	20.3	21.6	22.0
	6H	20.9	22.1	21.3	22.5	22.9	20.3	21.5	20.7	21.9	22.3
	8H	21.0	22.1	21.4	22.5	22.9	20.4	21.5	20.8	21.9	22.3
	12H	21.0	22.1	21.4	22.5	22.9	20.4	21.6	20.9	21.9	22.4

### UGR Viewed Endwise

4H	2H	19.6	21.0	20.0	21.3	21.7	18.8	20.1	19.2	20.5	20.8
	3H	21.1	22.2	21.5	22.6	23.0	20.4	21.5	20.8	21.9	22.3
	4H	21.5	22.5	22.0	23.0	23.4	20.9	21.9	21.3	22.3	22.8
	6H	21.8	22.7	22.3	23.2	23.6	21.3	22.2	21.8	22.6	23.1
	8H	21.9	22.7	22.4	23.2	23.6	21.5	22.3	21.9	22.7	23.2
	12H	22.0	22.7	22.5	23.2	23.7	21.6	22.3	22.1	22.8	23.2

8H	4H	21.7	22.6	22.2	23.0	23.5	21.1	21.9	21.6	22.4	22.8
	6H	22.1	22.8	22.6	23.3	23.8	21.6	22.3	22.1	22.8	23.3
	8H	22.3	22.9	22.8	23.4	23.9	21.8	22.4	22.4	23.0	23.4
	12H	22.4	22.9	22.9	23.4	24.0	22.0	22.5	22.5	23.0	23.6

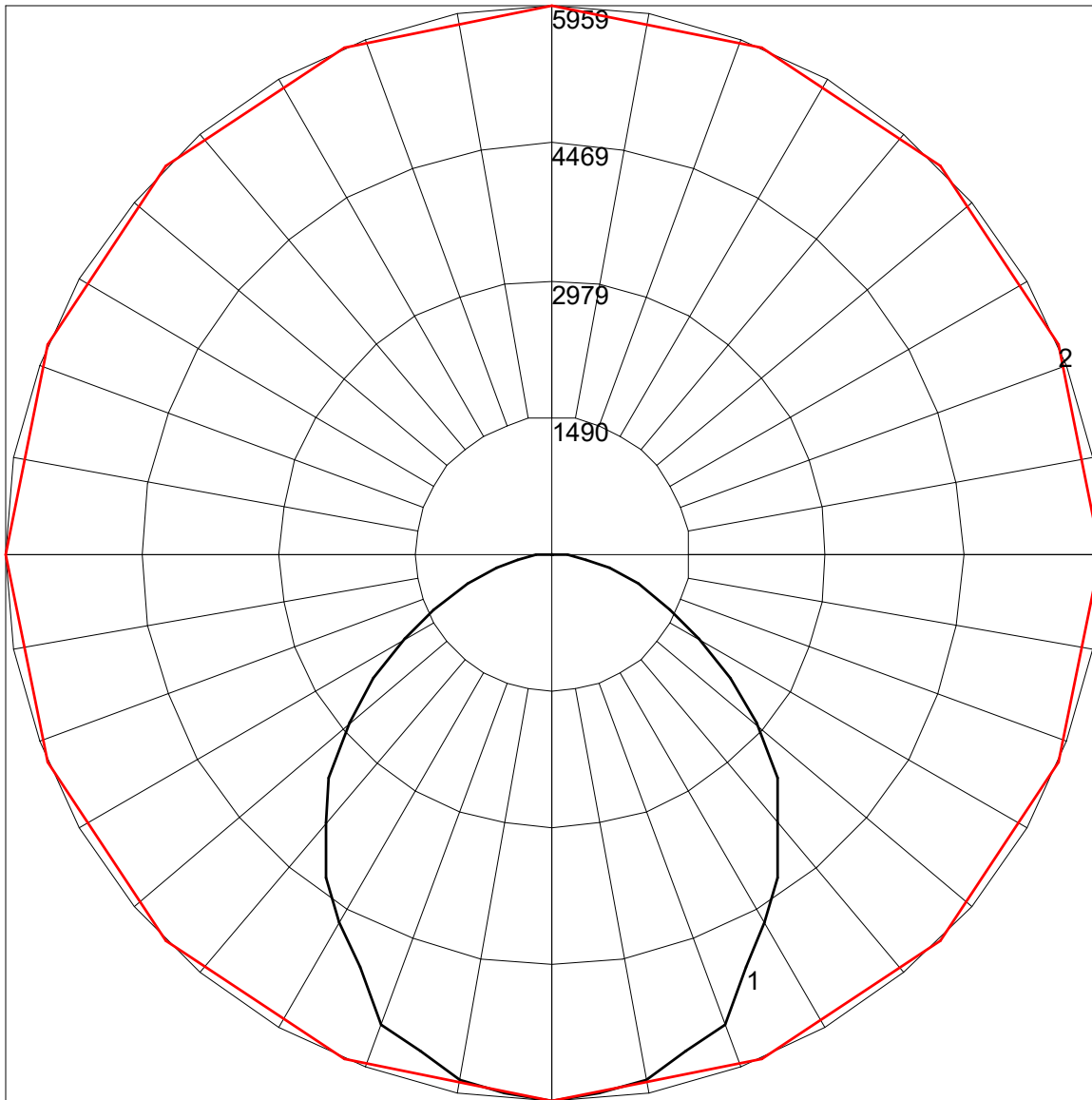
12H	4H	21.8	22.5	22.2	23.0	23.4	21.1	21.9	21.6	22.3	22.8
	6H	22.2	22.8	22.7	23.2	23.8	21.7	22.3	22.2	22.7	23.3
	8H	22.3	22.9	22.8	23.3	23.9	21.9	22.4	22.4	22.9	23.5

Maximum UGR = 24.0

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## POLAR GRAPH



Maximum Candela = 5958.836 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (90 - 270)

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)