



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD4AERNG-L27-835-A-DIM-UNV ALL ON_.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-L27-835-A-DIM-UNV ALL ON
 [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	12768
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	114.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
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	7074	6768	6172
55	6435	6221	5343
65	5128	5619	4396
75	3095	3759	3192
85	2112	2457	2579

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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>
0	5234.300	5234.300	5234.300	5234.300	5234.300	5234.300	5234.300	5234.300	5234.300
5	5233.097	5233.584	5223.163	5201.039	5178.970	5147.879	5121.934	5098.907	5086.824
10	5206.804	5207.507	5189.564	5160.696	5114.909	5060.411	5002.820	4958.942	4936.388
15	5042.589	5035.141	5019.767	4986.151	4917.952	4842.636	4758.794	4693.108	4672.582
20	4926.451	4912.894	4896.213	4861.492	4781.783	4676.252	4557.043	4467.950	4436.138
25	4529.506	4522.725	4491.722	4444.353	4359.267	4236.701	4111.549	4015.887	3975.470
30	4271.373	4256.708	4225.311	4165.889	4066.321	3939.795	3801.894	3694.542	3645.011
35	4037.152	4011.187	3966.228	3893.351	3774.325	3656.693	3520.325	3414.303	3370.585
40	3724.049	3682.390	3606.583	3507.285	3371.602	3266.983	3157.198	3067.068	3037.003
45	3492.597	3445.359	3341.699	3191.065	3047.233	2961.327	2884.733	2821.652	2785.471
50	3033.806	3003.298	2893.390	2718.009	2567.695	2507.024	2468.821	2414.485	2357.604
55	2577.042	2563.688	2491.414	2299.365	2140.069	2116.747	2104.745	2024.302	1954.236
60	1999.048	2031.836	2056.769	1866.307	1687.097	1699.967	1721.164	1565.081	1469.370
65	1513.173	1564.018	1658.271	1491.723	1297.109	1349.251	1376.255	1190.712	1105.779
70	982.137	1053.012	1145.726	1059.241	900.021	946.594	940.161	804.217	722.934
75	559.283	624.416	679.275	666.834	576.847	589.920	550.555	490.041	426.185
80	295.009	329.195	362.838	384.883	350.802	343.409	303.644	277.388	253.373
85	128.530	137.190	149.524	157.981	156.944	144.717	141.424	135.214	126.789
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1876.62	N.A.	14.70
0-30	3876.73	N.A.	30.40
0-40	6207.2	N.A.	48.60
0-60	10574.85	N.A.	82.80
0-80	12600.46	N.A.	98.70
0-90	12768.13	N.A.	100.00
10-90	12276.48	N.A.	96.10
20-40	4330.58	N.A.	33.90
20-50	6695.55	N.A.	52.40
40-70	5744.96	N.A.	45.00
60-80	2025.61	N.A.	15.90
70-80	648.29	N.A.	5.10
80-90	167.67	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	12768.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	491.65
10-20	1384.97
20-30	2000.11
30-40	2330.48
40-50	2364.97
50-60	2002.68
60-70	1377.32
70-80	648.29
80-90	167.67
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	109	105	101	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	81	74	67	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	64	58	82	71	63	57	69	62	56	66	60	56	64	59	55	53
5	77	65	56	50	75	64	56	50	62	55	49	60	54	49	58	52	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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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	18.8	20.3	19.1	20.7	21.0	17.7	19.3	18.1	19.6	20.0
	3H	20.1	21.5	20.4	21.8	22.2	19.2	20.6	19.6	20.9	21.3
	4H	20.4	21.7	20.8	22.1	22.5	19.6	21.0	20.0	21.3	21.7
	6H	20.6	21.8	21.0	22.2	22.6	19.9	21.2	20.4	21.5	21.9
	8H	20.6	21.8	21.1	22.2	22.6	20.0	21.2	20.5	21.6	22.0
	12H	20.7	21.8	21.1	22.2	22.6	20.1	21.2	20.5	21.6	22.1

UGR Viewed Endwise

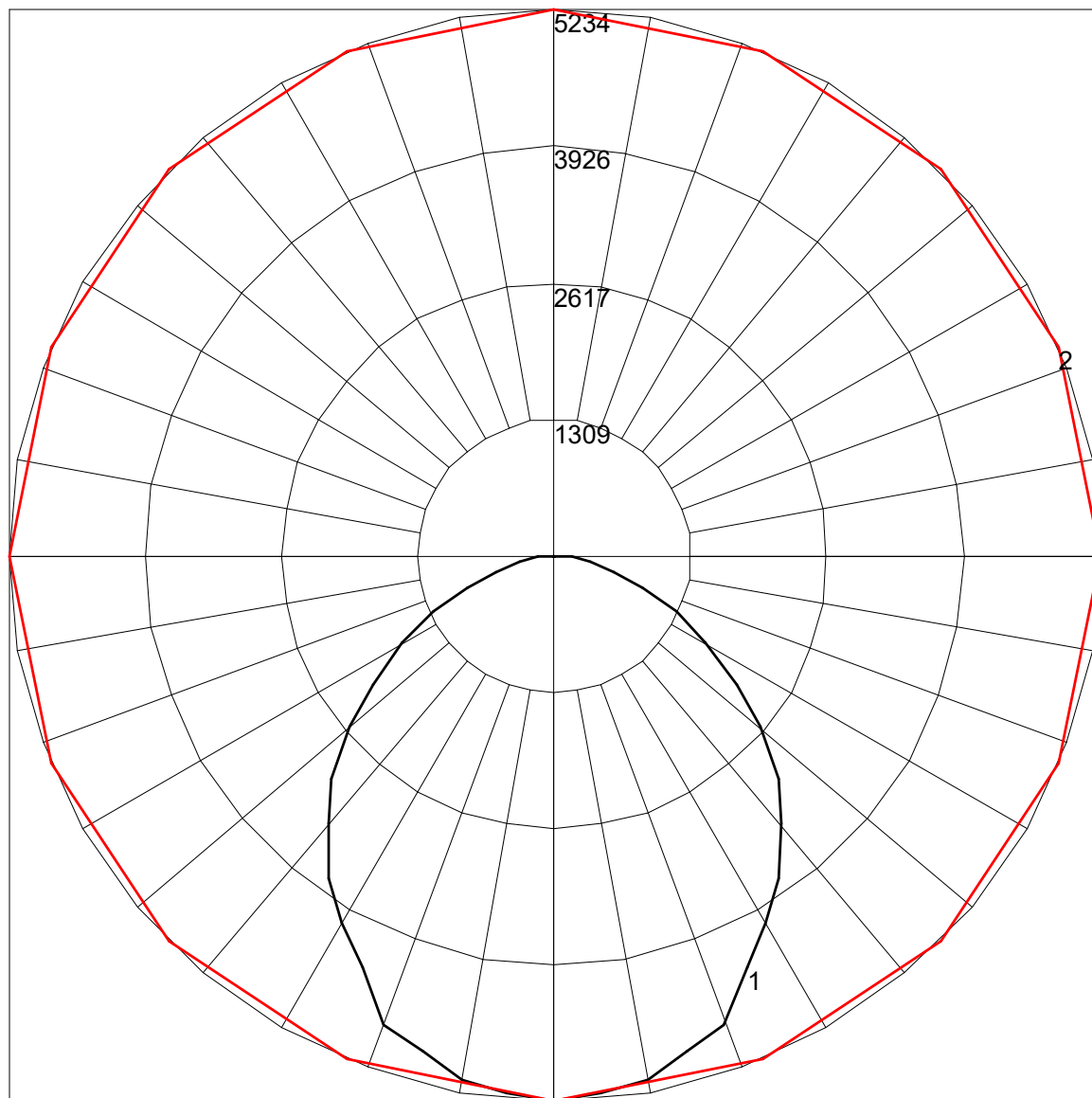
4H	2H	19.4	20.7	19.8	21.1	21.4	18.4	19.8	18.8	20.1	20.5
	3H	20.8	22.0	21.3	22.4	22.8	20.1	21.2	20.5	21.6	22.0
	4H	21.3	22.3	21.7	22.7	23.1	20.6	21.6	21.0	22.0	22.5
	6H	21.5	22.4	22.0	22.9	23.3	21.0	21.9	21.5	22.3	22.8
	8H	21.6	22.4	22.1	22.9	23.3	21.2	22.0	21.6	22.4	22.9
	12H	21.7	22.4	22.2	22.9	23.4	21.3	22.0	21.7	22.5	22.9

8H	4H	21.5	22.3	21.9	22.7	23.2	20.8	21.6	21.3	22.1	22.5
	6H	21.8	22.5	22.3	23.0	23.5	21.3	22.0	21.8	22.5	23.0
	8H	22.0	22.6	22.5	23.1	23.5	21.5	22.1	22.0	22.6	23.1
	12H	22.0	22.6	22.6	23.1	23.6	21.7	22.2	22.2	22.7	23.3

12H	4H	21.5	22.2	22.0	22.7	23.2	20.8	21.5	21.3	22.0	22.5
	6H	21.8	22.5	22.4	22.9	23.5	21.3	22.0	21.9	22.4	23.0
	8H	22.0	22.5	22.5	23.0	23.6	21.6	22.1	22.1	22.6	23.2

Maximum UGR = 23.6

POLAR GRAPH



Maximum Candela = 5234.3 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.)