



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD4AERNG-L44-835-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-L44-835-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	14516
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	128.4
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	7609	7094
55	7036	6945	6139
65	5609	6238	4966
75	3453	4170	3526
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>
0	5958.837	5958.837	5958.837	5958.837	5958.837	5958.837	5958.837	5958.837	5958.837
5	5954.037	5952.925	5942.505	5920.780	5901.109	5871.217	5846.471	5823.843	5812.560
10	5903.366	5905.269	5890.523	5866.450	5825.059	5774.558	5720.163	5677.085	5654.531
15	5703.184	5698.933	5691.153	5667.927	5606.922	5536.801	5455.756	5391.269	5370.743
20	5562.669	5553.108	5549.216	5527.682	5459.164	5360.426	5243.614	5152.524	5118.713
25	5106.978	5106.590	5090.374	5058.590	4987.093	4871.720	4746.568	4646.110	4602.096
30	4798.890	4792.218	4781.202	4743.360	4659.379	4542.043	4403.343	4288.398	4232.074
35	4515.914	4501.138	4478.959	4430.060	4324.621	4217.380	4079.413	3962.202	3910.890
40	4143.266	4116.393	4065.763	3991.642	3869.946	3771.721	3657.940	3552.623	3511.369
45	3861.460	3830.606	3756.919	3629.863	3502.417	3421.306	3335.521	3254.456	3202.689
50	3336.729	3322.206	3243.869	3089.669	2955.340	2898.665	2850.472	2774.955	2701.689
55	2818.022	2821.852	2781.548	2608.282	2458.578	2444.048	2425.252	2320.032	2233.581
60	2185.277	2235.250	2288.957	2108.086	1928.477	1954.135	1982.125	1800.466	1687.571
65	1655.043	1723.872	1840.903	1668.761	1465.355	1535.481	1582.467	1375.743	1274.025
70	1082.845	1169.305	1272.410	1167.941	1004.726	1062.488	1081.232	938.894	841.226
75	624.024	700.347	753.607	729.576	637.192	656.259	631.681	578.360	500.118
80	333.774	373.954	403.201	418.852	382.772	378.577	346.405	325.344	294.535
85	146.114	156.373	165.510	171.569	169.333	157.106	156.211	151.199	141.975
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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Zone	Lumens	%Lamp	%Fixt
0-20	2139.28	N.A.	14.70
0-30	4425.11	N.A.	30.50
0-40	7087.63	N.A.	48.80
0-60	12048.45	N.A.	83.00
0-80	14329.48	N.A.	98.70
0-90	14516.14	N.A.	100.00
10-90	13956.00	N.A.	96.10
20-40	4948.35	N.A.	34.10
20-50	7640.56	N.A.	52.60
40-70	6513.42	N.A.	44.90
60-80	2281.03	N.A.	15.70
70-80	728.43	N.A.	5.00
80-90	186.66	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	14516.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	560.14
10-20	1579.14
20-30	2285.83
30-40	2662.52
40-50	2692.2
50-60	2268.61
60-70	1552.61
70-80	728.43
80-90	186.66
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	97	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	85	79	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	61
4	84	73	64	58	82	71	63	57	69	62	57	67	61	56	64	59	55	53
5	78	65	56	50	75	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	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	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	19.0	20.6	19.4	20.9	21.2	18.3	19.9	18.6	20.2	20.5
	3H	20.3	21.8	20.7	22.1	22.4	19.7	21.1	20.0	21.4	21.8
	4H	20.7	22.0	21.1	22.4	22.7	20.1	21.4	20.5	21.8	22.1
	6H	20.9	22.1	21.3	22.5	22.9	20.4	21.6	20.8	22.0	22.4
	8H	20.9	22.1	21.4	22.5	22.9	20.5	21.7	20.9	22.0	22.4
	12H	21.0	22.1	21.4	22.5	22.9	20.5	21.7	21.0	22.1	22.5

UGR Viewed Endwise

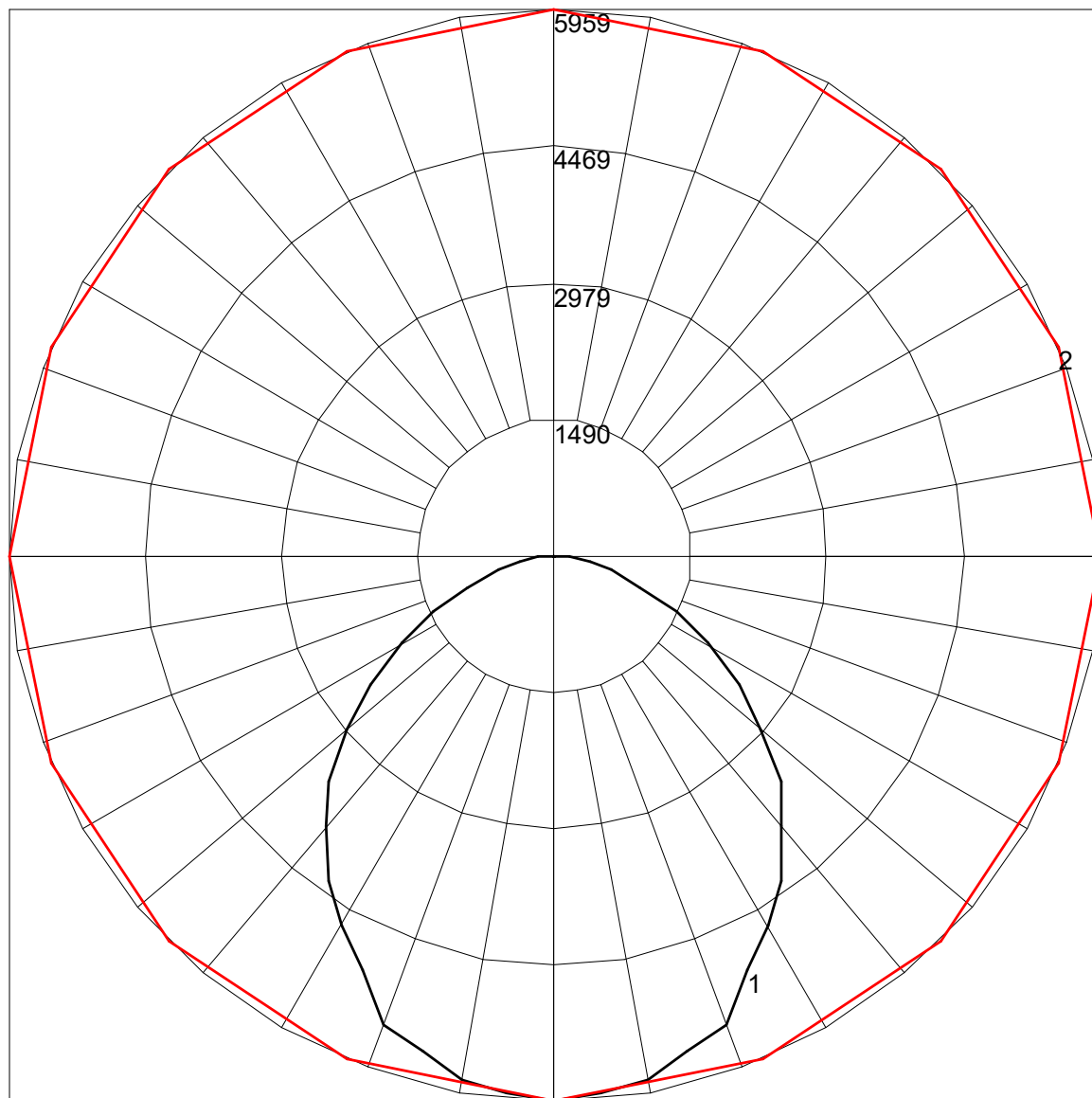
4H	2H	19.6	21.0	20.0	21.3	21.7	19.0	20.3	19.4	20.6	21.0
	3H	21.1	22.2	21.5	22.6	23.0	20.5	21.6	20.9	22.0	22.4
	4H	21.6	22.6	22.0	23.0	23.4	21.0	22.0	21.5	22.5	22.9
	6H	21.9	22.7	22.3	23.2	23.6	21.4	22.3	21.9	22.7	23.2
	8H	21.9	22.8	22.4	23.2	23.7	21.6	22.4	22.0	22.8	23.3
	12H	22.0	22.7	22.5	23.2	23.7	21.7	22.4	22.1	22.9	23.3

8H	4H	21.8	22.6	22.2	23.0	23.5	21.2	22.1	21.7	22.5	23.0
	6H	22.1	22.8	22.6	23.3	23.8	21.7	22.4	22.2	22.9	23.4
	8H	22.3	22.9	22.8	23.4	23.9	21.9	22.5	22.4	23.0	23.5
	12H	22.4	22.9	22.9	23.4	24.0	22.1	22.6	22.6	23.1	23.7

12H	4H	21.8	22.5	22.3	23.0	23.5	21.3	22.0	21.7	22.5	22.9
	6H	22.2	22.8	22.7	23.2	23.8	21.8	22.4	22.3	22.8	23.4
	8H	22.3	22.9	22.8	23.4	23.9	22.0	22.5	22.5	23.0	23.6

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 5958.837 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.)