



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2ARNG-L27-835-A-READING ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN from BALLABS TEST NO. 18939.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 18-AUG-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 2x2' MULTI COMPARTMENT LED TROFFER
[MORE] FROSTED ACRYLIC DIFFUSER
[LUMCAT] AMD2ARNG-L27-835-A-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	1732
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	108
Total Luminaire Watts	16.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.08
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.42
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 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	3778	2782	1334
55	3931	2756	1149
65	3461	2582	1001
75	1973	1880	794
85	381	763	659

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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	603.153	603.153	603.153	603.153	603.153	603.153	603.153	603.153	603.153
5	684.744	683.712	668.220	643.433	614.514	584.563	558.743	540.153	530.858
10	751.876	741.548	702.302	647.564	589.727	533.956	489.546	460.627	447.201
15	830.369	810.746	751.876	672.351	587.661	509.169	450.299	414.152	400.725
20	869.615	834.500	751.876	643.433	524.661	429.644	359.413	319.134	305.708
25	902.665	863.418	764.270	638.269	504.005	397.627	326.364	282.986	270.593
30	938.812	884.074	764.270	608.317	458.562	342.889	268.527	229.281	217.920
35	960.501	897.501	763.237	593.858	435.840	319.134	243.740	208.625	196.231
40	934.681	863.418	714.696	537.054	373.873	264.396	199.330	167.313	160.084
45	912.993	836.566	672.351	483.349	322.233	219.986	164.215	137.362	129.100
50	848.959	769.434	609.350	425.512	272.658	182.805	135.296	114.640	107.411
55	770.467	693.007	540.153	359.413	225.150	150.788	108.444	93.985	86.755
60	647.564	585.596	460.627	299.511	182.805	117.739	86.755	71.263	67.132
65	499.874	461.660	372.840	246.838	144.592	92.952	66.099	54.738	50.607
70	322.233	309.839	268.527	185.903	103.280	67.132	46.476	38.213	35.115
75	174.543	174.543	166.280	124.968	70.230	42.345	29.951	26.853	26.853
80	67.132	75.394	85.722	71.263	44.410	27.886	22.722	21.689	21.689
85	11.361	13.426	22.722	27.886	19.623	16.525	16.525	16.525	13.426
90	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	224.18	N.A.	12.90
0-30	474.16	N.A.	27.40
0-40	785.38	N.A.	45.30
0-60	1397.65	N.A.	80.70
0-80	1708.61	N.A.	98.70
0-90	1731.91	N.A.	100.00
10-90	1674.15	N.A.	96.70
20-40	561.20	N.A.	32.40
20-50	884.04	N.A.	51.00
40-70	822.27	N.A.	47.50
60-80	310.96	N.A.	18.00
70-80	100.96	N.A.	5.80
80-90	23.30	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	1731.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	57.76
10-20	166.43
20-30	249.98
30-40	311.22
40-50	322.84
50-60	289.43
60-70	210.00
70-80	100.96
80-90	23.30
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	109	104	100	97	106	102	98	95	98	95	92	94	92	89	90	88	87	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	79	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	46	56	51	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

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UGR TABLE - CORRECTED

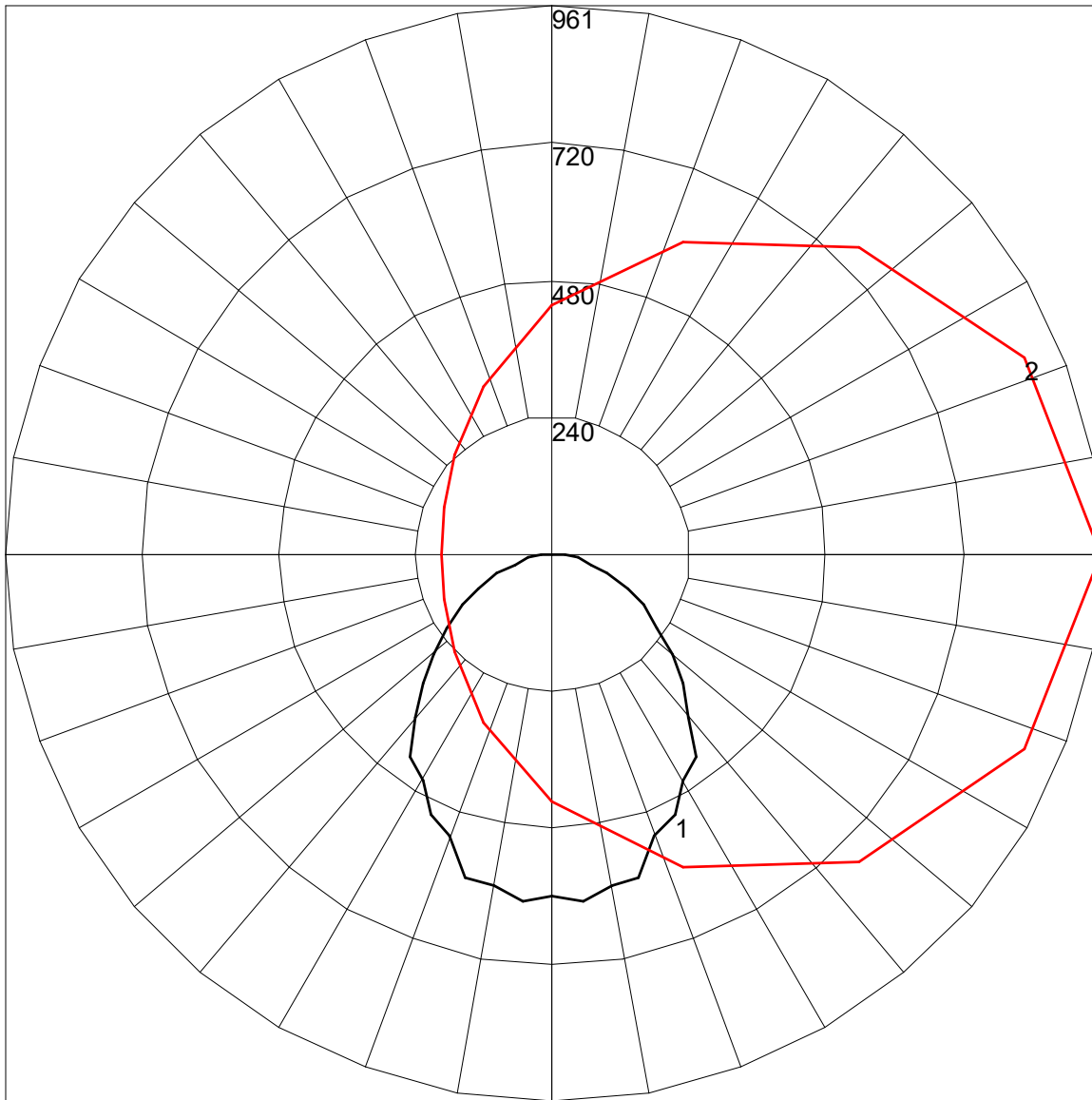
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	16.9	18.6	17.3	18.9	19.2	10.0	11.6	10.4	12.0	12.3
	3H	18.5	19.9	18.8	20.3	20.6	11.5	13.0	11.9	13.3	13.6
	4H	18.8	20.2	19.2	20.6	20.9	12.0	13.3	12.4	13.7	14.1
	6H	19.0	20.3	19.4	20.6	21.0	12.3	13.6	12.7	14.0	14.4
	8H	19.0	20.2	19.4	20.6	21.0	12.4	13.7	12.9	14.1	14.5
	12H	19.0	20.1	19.4	20.5	21.0	12.5	13.7	13.0	14.1	14.5
4H	2H	17.3	18.7	17.7	19.0	19.4	11.5	12.9	11.9	13.2	13.6
	3H	19.0	20.2	19.4	20.6	21.0	13.1	14.2	13.5	14.6	15.0
	4H	19.5	20.5	19.9	20.9	21.4	13.6	14.7	14.1	15.1	15.5
	6H	19.7	20.6	20.1	21.0	21.5	14.1	15.0	14.5	15.4	15.9
	8H	19.7	20.6	20.2	21.0	21.5	14.2	15.0	14.6	15.5	15.9
	12H	19.7	20.5	20.2	20.9	21.4	14.3	15.1	14.8	15.5	16.0
8H	4H	19.6	20.4	20.0	20.9	21.3	14.1	15.0	14.6	15.4	15.9
	6H	19.9	20.6	20.3	21.0	21.5	14.7	15.4	15.2	15.9	16.3
	8H	19.9	20.5	20.4	21.0	21.5	14.8	15.5	15.4	16.0	16.5
	12H	19.9	20.5	20.4	21.0	21.5	15.0	15.6	15.5	16.1	16.6
12H	4H	19.6	20.3	20.0	20.8	21.3	14.2	14.9	14.6	15.4	15.9
	6H	19.9	20.5	20.4	21.0	21.5	14.7	15.4	15.2	15.8	16.4
	8H	19.9	20.5	20.4	21.0	21.5	15.0	15.5	15.5	16.0	16.6

Maximum UGR = 21.5

POLAR GRAPH



Maximum Candela = 960.501 Located At Horizontal Angle = 0, Vertical Angle = 35
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)