



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2ARNG-P31-8TW-A-POE 4000K 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] 25-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-P31-8TW-A-PoE 4000k READING ONLY
 [_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	1705
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	15.7
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	3719	2739	1313
55	3870	2713	1131
65	3407	2541	986
75	1943	1851	782
85	376	751	649

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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	593.750	593.750	593.750	593.750	593.750	593.750	593.750	593.750	593.750
5	674.069	673.053	657.802	633.402	604.934	575.450	550.033	531.732	522.582
10	740.155	729.988	691.353	637.468	580.533	525.632	481.914	453.446	440.229
15	817.424	798.106	740.155	661.869	578.500	501.231	443.279	407.695	394.478
20	856.058	821.490	740.155	633.402	516.482	422.946	353.810	314.159	300.942
25	888.592	849.958	752.355	628.318	496.148	391.428	321.276	278.575	266.374
30	924.177	870.292	752.355	598.834	451.413	337.543	264.341	225.707	214.523
35	945.527	883.509	751.338	584.600	429.046	314.159	239.940	205.373	193.172
40	920.110	849.958	703.554	528.682	368.044	260.274	196.222	164.705	157.588
45	898.759	823.524	661.869	475.814	317.209	216.556	161.655	135.221	127.087
50	835.724	757.439	599.851	418.879	268.408	179.955	133.187	112.853	105.736
55	758.455	682.203	531.732	353.810	221.640	148.438	106.753	92.519	85.402
60	637.468	576.467	453.446	294.842	179.955	115.903	85.402	70.152	66.085
65	492.081	454.463	367.027	242.990	142.337	91.503	65.069	53.885	49.818
70	317.209	305.009	264.341	183.005	101.670	66.085	45.751	37.618	34.568
75	171.822	171.822	163.688	123.020	69.135	41.685	29.484	26.434	26.434
80	66.085	74.219	84.386	70.152	43.718	27.451	22.367	21.351	21.351
85	11.184	13.217	22.367	27.451	19.317	16.267	16.267	16.267	13.217
90	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	220.69	N.A.	12.90
0-30	466.77	N.A.	27.40
0-40	773.14	N.A.	45.30
0-60	1375.86	N.A.	80.70
0-80	1681.98	N.A.	98.70
0-90	1704.91	N.A.	100.00
10-90	1648.05	N.A.	96.70
20-40	552.45	N.A.	32.40
20-50	870.26	N.A.	51.00
40-70	809.45	N.A.	47.50
60-80	306.11	N.A.	18.00
70-80	99.39	N.A.	5.80
80-90	22.93	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	1704.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	56.86
10-20	163.83
20-30	246.08
30-40	306.37
40-50	317.81
50-60	284.92
60-70	206.73
70-80	99.39
80-90	22.93
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	117	117	117	117	114	114	114	114	109	109	109	105	105	105	100	100	100	98
1	107	103	99	95	105	101	97	94	96	93	91	93	90	88	89	87	85	83
2	98	90	83	78	95	88	82	77	84	79	75	81	77	73	78	75	72	69
3	89	79	71	65	87	77	70	64	74	68	63	72	66	62	69	65	61	59
4	82	70	61	55	79	69	61	54	66	59	54	64	58	53	62	56	52	50
5	75	62	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43
6	69	56	47	41	67	55	47	41	53	46	40	52	45	40	50	44	40	38
7	64	51	42	36	62	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	58	46	38	32	44	37	32	43	37	32	42	36	32	30
9	56	43	34	29	54	42	34	29	41	34	29	40	33	29	39	33	28	27
10	52	39	31	26	51	39	31	26	38	31	26	37	30	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

X=2H	Y=2H	19.4	21.1	19.8	21.4	21.7	UGR Viewed Endwise	12.5	14.1	12.9	14.4	14.8
	3H	21.0	22.4	21.3	22.7	23.1	14.0	15.4	14.3	15.8	16.1	
	4H	21.3	22.7	21.7	23.0	23.4	14.4	15.8	14.8	16.2	16.6	
	6H	21.5	22.7	21.9	23.1	23.5	14.8	16.1	15.2	16.5	16.8	
	8H	21.5	22.7	21.9	23.1	23.5	14.9	16.1	15.3	16.5	16.9	
	12H	21.5	22.6	21.9	23.0	23.4	15.0	16.2	15.4	16.6	17.0	

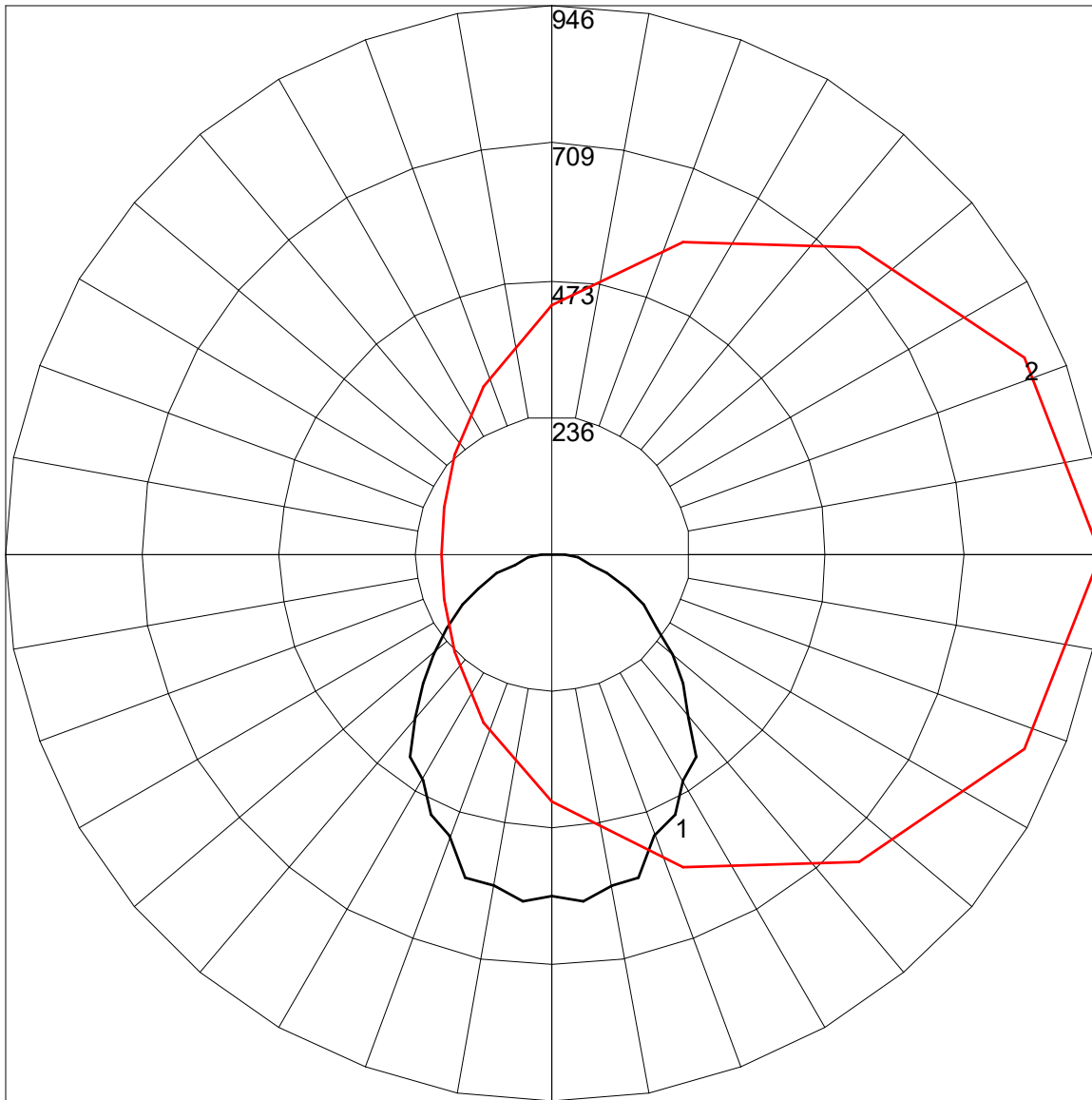
4H	2H	19.8	21.1	20.2	21.5	21.9	14.0	15.3	14.4	15.7	16.1	
	3H	21.5	22.6	21.9	23.0	23.4	15.6	16.7	16.0	17.1	17.5	
	4H	21.9	23.0	22.4	23.4	23.8	16.1	17.2	16.6	17.6	18.0	
	6H	22.2	23.1	22.6	23.5	24.0	16.5	17.4	17.0	17.9	18.3	
	8H	22.2	23.0	22.6	23.5	23.9	16.7	17.5	17.1	18.0	18.4	
	12H	22.2	22.9	22.7	23.4	23.9	16.8	17.5	17.2	18.0	18.5	

8H	4H	22.1	22.9	22.5	23.3	23.8	16.6	17.5	17.1	17.9	18.4	
	6H	22.3	23.0	22.8	23.5	24.0	17.1	17.9	17.6	18.3	18.8	
	8H	22.4	23.0	22.9	23.5	24.0	17.3	18.0	17.8	18.5	19.0	
	12H	22.4	22.9	22.9	23.4	24.0	17.5	18.1	18.0	18.5	19.1	

12H	4H	22.0	22.8	22.5	23.3	23.8	16.6	17.4	17.1	17.9	18.4	
	6H	22.3	23.0	22.9	23.4	24.0	17.2	17.9	17.7	18.3	18.9	
	8H	22.4	23.0	22.9	23.5	24.0	17.5	18.0	18.0	18.5	19.1	

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 945.527 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.)