



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2ARNG-L44-835-A-DIM-UNV AMBIENT AND READING ONLY_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TESTLAB] GEN from Intertek
 [ISSUEDATE] 18-AUG-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.64836
 [LUMINAIRE] 2X2' LED TROFFER
 [MORE] FROSTED ACRYLIC DIFFUSER
 [LUMCAT] AMD2ARNG-L44-835-A-DIM-UNV AMBIENT AND READING ONLY
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] INDOOR,DIRECT, OFFICE, EDUCATION
 [_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6179
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	51.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.42
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
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	8287	7130	5685
55	7965	6647	4761
65	6131	5820	3816
75	3523	3965	2887
85	1210	1789	2003

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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	2538.382	2538.382	2538.382	2538.382	2538.382	2538.382	2538.382	2538.382	2538.382
5	2608.652	2605.411	2588.814	2567.525	2543.208	2508.655	2479.338	2461.852	2454.766
10	2627.555	2620.081	2584.240	2538.521	2488.416	2424.914	2371.484	2339.160	2322.880
15	2630.299	2618.131	2569.846	2504.955	2428.918	2341.773	2268.270	2221.537	2200.656
20	2572.996	2547.729	2478.083	2388.047	2280.872	2174.258	2085.620	2032.363	2009.088
25	2494.217	2463.254	2375.150	2269.858	2150.781	2029.216	1937.244	1882.822	1862.145
30	2413.658	2362.786	2248.964	2112.984	1981.084	1847.555	1753.221	1707.992	1692.766
35	2313.946	2251.314	2113.277	1959.361	1818.094	1684.637	1593.780	1562.438	1549.677
40	2157.522	2080.369	1918.484	1748.206	1598.002	1475.548	1403.118	1384.263	1382.924
45	2002.560	1913.247	1722.893	1528.369	1373.603	1265.006	1214.757	1214.044	1218.667
50	1797.245	1708.240	1510.328	1307.898	1149.245	1065.191	1036.274	1053.446	1055.697
55	1561.180	1482.708	1302.887	1085.147	933.120	876.522	871.178	883.686	877.469
60	1227.230	1185.603	1083.737	875.956	732.467	694.184	709.864	671.270	646.798
65	885.428	879.153	840.494	687.709	551.131	533.822	533.753	472.231	436.162
70	558.039	568.195	581.831	507.859	388.695	389.087	359.779	296.569	270.921
75	311.590	322.635	350.728	336.016	255.322	253.392	214.399	174.945	163.900
80	142.144	154.088	177.762	183.460	147.955	140.082	114.761	100.383	96.701
85	36.027	40.302	53.279	64.886	59.660	53.525	47.082	43.400	38.093
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	0.092	0.000	0.092	0.000	0.000	0.000	0.092	0.000	0.092
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.092	0.184	0.276	0.000	0.092	0.000	0.276	0.184	0.092
165	0.368	0.184	0.276	0.092	0.092	0.092	0.276	0.184	0.368
170	0.184	0.184	0.276	0.092	0.092	0.092	0.276	0.184	0.184
175	0.368	0.276	0.184	0.000	0.276	0.000	0.184	0.276	0.368
180	0.276	0.276	0.276	0.276	0.276	0.276	0.276	0.276	0.276

IES INDOOR REPORT**PHOTOMETRIC FILENAME : AMD2ARNG-L44-835-A-DIM-UNV AMBIENT AND READING ONLY_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	918.68	N.A.	14.90
0-30	1912.56	N.A.	31.00
0-40	3072.92	N.A.	49.70
0-60	5177.98	N.A.	83.80
0-80	6112.87	N.A.	98.90
0-90	6178.74	N.A.	100.00
10-90	5938.64	N.A.	96.10
20-40	2154.24	N.A.	34.90
20-50	3296.16	N.A.	53.30
40-70	2745.48	N.A.	44.40
60-80	934.89	N.A.	15.10
70-80	294.47	N.A.	4.80
80-90	65.87	N.A.	1.10
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	0.01	N.A.	0.00
90-180	0.09	N.A.	0.00
110-180	0.09	N.A.	0.00
0-180	6178.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	240.10
10-20	678.58
20-30	993.88
30-40	1160.36
40-50	1141.92
50-60	963.14
60-70	640.42
70-80	294.47
80-90	65.87
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.01
150-160	0.02
160-170	0.05
170-180	0.02

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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	93	90	91	89	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	90	80	73	67	77	71	66	75	70	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30
10	55	42	34	29	53	41	34	29	40	34	29	39	33	29	39	33	29	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	20.1	21.7	20.5	22.0	22.3	17.1	18.7	17.5	19.0	19.3
	3H	21.3	22.7	21.7	23.0	23.4	18.5	19.9	18.9	20.3	20.6
	4H	21.6	22.9	22.0	23.3	23.6	19.0	20.3	19.4	20.7	21.0
	6H	21.7	22.9	22.1	23.3	23.7	19.3	20.5	19.7	20.9	21.3
	8H	21.7	22.9	22.2	23.3	23.7	19.4	20.6	19.8	20.9	21.3
	12H	21.7	22.8	22.2	23.2	23.7	19.4	20.6	19.9	20.9	21.4

UGR Viewed Endwise

4H	2H	20.5	21.8	20.9	22.2	22.6	17.9	19.2	18.3	19.6	19.9
	3H	21.9	23.0	22.3	23.4	23.8	19.5	20.6	19.9	21.0	21.4
	4H	22.3	23.3	22.7	23.7	24.1	20.0	21.0	20.5	21.5	21.9
	6H	22.5	23.3	22.9	23.8	24.2	20.5	21.3	20.9	21.8	22.2
	8H	22.5	23.3	23.0	23.8	24.2	20.6	21.4	21.0	21.8	22.3
	12H	22.5	23.2	23.0	23.7	24.2	20.7	21.4	21.1	21.9	22.3

8H	4H	22.4	23.2	22.9	23.7	24.1	20.3	21.1	20.7	21.5	22.0
	6H	22.7	23.4	23.2	23.8	24.3	20.8	21.5	21.3	21.9	22.4
	8H	22.7	23.3	23.3	23.8	24.3	21.0	21.6	21.5	22.1	22.6
	12H	22.8	23.3	23.3	23.8	24.3	21.1	21.6	21.6	22.1	22.7

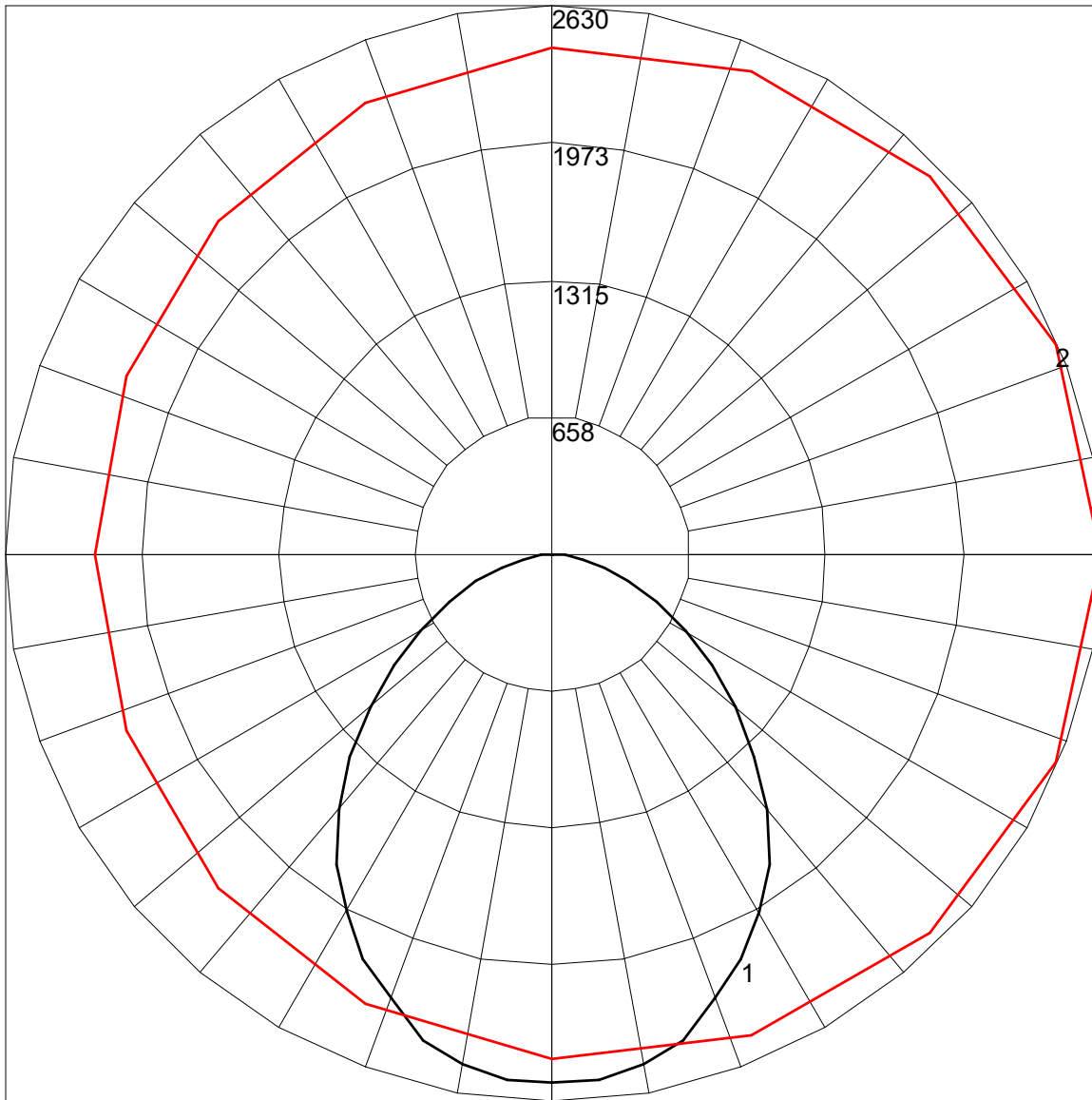
12H	4H	22.4	23.1	22.9	23.6	24.1	20.3	21.0	20.8	21.5	22.0
	6H	22.7	23.3	23.2	23.8	24.3	20.8	21.4	21.3	21.9	22.4
	8H	22.8	23.3	23.3	23.8	24.4	21.0	21.5	21.5	22.0	22.6

Maximum UGR = 24.4

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POLAR GRAPH



Maximum Candela = 2630.299 Located At Horizontal Angle = 0, Vertical Angle = 15

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

2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)