



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AMD2ARNG-L27-835-A-DIM-UNV ALL ON_.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-L27-835-A-DIM-UNV ALL ON
 [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	4564
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	48.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.54
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.32
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	6759	5533	3994
55	6824	5346	3357
65	5424	4980	2722
75	2933	3275	2074
85	888	1390	1481

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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	1786.520	1786.520	1786.520	1786.520	1786.520	1786.520	1786.520	1786.520	1786.520
5	1861.188	1858.804	1842.637	1819.989	1793.884	1761.119	1733.161	1715.246	1707.301
10	1899.887	1891.304	1854.140	1804.918	1751.809	1691.310	1641.384	1610.383	1595.212
15	1932.061	1916.996	1864.599	1794.022	1714.624	1630.841	1563.022	1520.402	1502.417
20	1912.268	1883.175	1807.428	1710.241	1598.560	1496.452	1414.965	1367.809	1348.361
25	1885.407	1845.931	1750.360	1635.963	1510.986	1395.322	1312.454	1265.500	1253.335
30	1859.720	1805.227	1679.552	1529.460	1390.623	1264.031	1183.809	1150.434	1138.827
35	1817.762	1750.751	1599.356	1429.903	1282.129	1155.179	1079.859	1061.875	1053.492
40	1720.550	1640.390	1463.502	1278.716	1122.411	1006.058	948.136	944.285	945.952
45	1633.248	1539.412	1336.978	1125.541	965.132	862.178	828.842	840.209	849.355
50	1501.882	1404.913	1193.109	972.491	808.679	729.784	719.056	750.119	760.334
55	1337.624	1252.134	1047.848	810.602	658.064	601.977	616.139	653.112	653.913
60	1082.493	1032.963	896.709	664.705	518.916	482.933	522.837	518.630	502.061
65	783.282	772.010	719.157	532.307	393.185	378.421	412.416	365.088	334.016
70	482.307	490.055	498.226	399.716	277.807	280.944	276.174	218.430	195.190
75	259.404	266.158	289.656	270.962	183.411	188.338	153.327	118.468	111.714
80	114.060	124.573	143.062	144.105	107.727	100.727	80.061	70.868	68.617
85	26.444	29.860	41.407	50.511	44.105	39.150	35.210	32.959	28.510
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	0.056	0.000	0.056	0.000	0.000	0.000	0.056	0.000	0.056
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.056	0.113	0.169	0.000	0.056	0.000	0.169	0.113	0.056
165	0.225	0.113	0.169	0.056	0.056	0.056	0.169	0.113	0.225
170	0.113	0.113	0.169	0.056	0.056	0.056	0.169	0.113	0.113
175	0.225	0.169	0.113	0.000	0.169	0.000	0.113	0.169	0.225
180	0.169	0.169	0.169	0.169	0.169	0.169	0.169	0.169	0.169

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	649.14	N.A.	14.20
0-30	1355.75	N.A.	29.70
0-40	2194.37	N.A.	48.10
0-60	3775.96	N.A.	82.70
0-80	4514.42	N.A.	98.90
0-90	4564.22	N.A.	100.00
10-90	4394.92	N.A.	96.30
20-40	1545.23	N.A.	33.90
20-50	2388.32	N.A.	52.30
40-70	2090.89	N.A.	45.80
60-80	738.46	N.A.	16.20
70-80	229.17	N.A.	5.00
80-90	49.80	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	0.00	N.A.	0.00
90-180	0.06	N.A.	0.00
110-180	0.06	N.A.	0.00
0-180	4564.28	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	169.30
10-20	479.84
20-30	706.61
30-40	838.61
40-50	843.10
50-60	738.50
60-70	509.29
70-80	229.17
80-90	49.80
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	0.01
160-170	0.03
170-180	0.01

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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	97	90	84	79	87	82	77	84	79	76	81	77	74	72
3	91	81	73	67	89	80	72	67	77	71	65	74	69	64	72	67	63	61
4	84	72	64	57	82	71	63	57	68	62	56	66	60	55	64	59	55	53
5	77	65	56	50	75	64	55	49	62	54	49	60	53	48	58	52	48	46
6	71	58	50	43	70	57	49	43	56	48	43	54	47	42	52	47	42	40
7	66	53	44	38	65	52	44	38	51	43	38	49	43	38	48	42	37	36
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	34	32
9	58	45	36	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	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	20.1	21.7	20.5	22.0	22.3	16.0	17.6	16.3	17.9	18.2
	3H	21.3	22.8	21.7	23.1	23.5	17.4	18.8	17.8	19.2	19.5
	4H	21.6	23.0	22.0	23.3	23.7	17.9	19.2	18.3	19.6	20.0
	6H	21.7	23.0	22.2	23.3	23.7	18.2	19.5	18.6	19.8	20.2
	8H	21.7	22.9	22.2	23.3	23.7	18.3	19.5	18.7	19.9	20.3
	12H	21.7	22.9	22.2	23.3	23.7	18.4	19.5	18.8	19.9	20.3

UGR Viewed Endwise

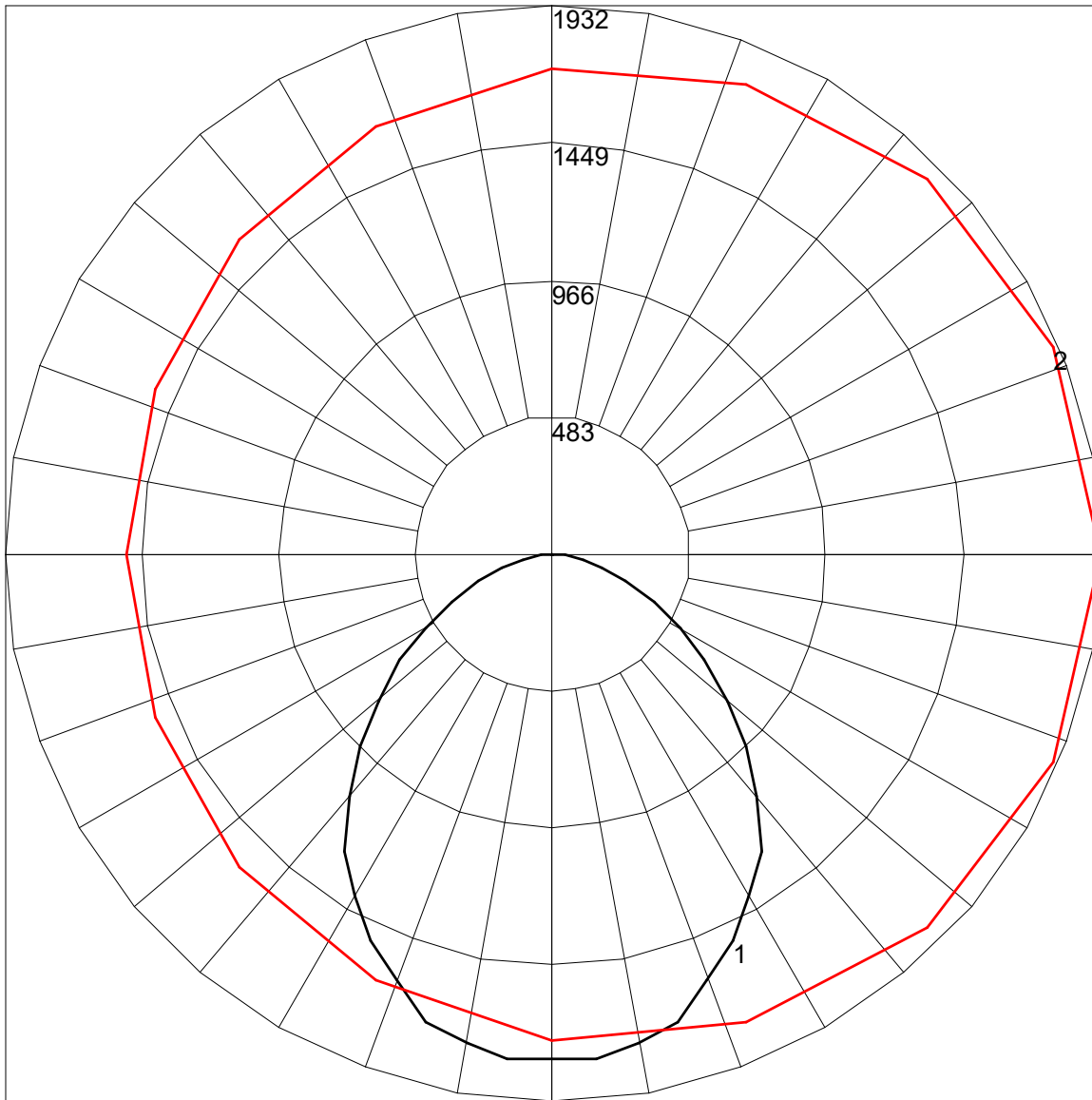
4H	2H	20.5	21.9	20.9	22.2	22.6	17.0	18.3	17.4	18.7	19.1
	3H	21.9	23.1	22.4	23.5	23.9	18.6	19.7	19.0	20.1	20.5
	4H	22.3	23.3	22.7	23.7	24.1	19.2	20.2	19.6	20.6	21.0
	6H	22.5	23.4	22.9	23.8	24.3	19.6	20.5	20.1	20.9	21.4
	8H	22.5	23.3	23.0	23.8	24.2	19.7	20.5	20.2	21.0	21.4
	12H	22.5	23.2	23.0	23.7	24.2	19.8	20.5	20.3	21.0	21.5

8H	4H	22.4	23.2	22.9	23.7	24.1	19.5	20.3	19.9	20.7	21.2
	6H	22.7	23.3	23.1	23.8	24.3	19.9	20.6	20.4	21.1	21.6
	8H	22.7	23.3	23.2	23.8	24.3	20.1	20.7	20.6	21.2	21.7
	12H	22.7	23.3	23.2	23.7	24.3	20.2	20.8	20.8	21.3	21.8

12H	4H	22.4	23.2	22.9	23.6	24.1	19.5	20.2	19.9	20.7	21.1
	6H	22.7	23.3	23.2	23.7	24.3	20.0	20.6	20.5	21.0	21.6
	8H	22.7	23.3	23.2	23.8	24.3	20.2	20.7	20.7	21.2	21.8

Maximum UGR = 24.3

POLAR GRAPH



Maximum Candela = 1932.061 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.)