



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4WUD-8-00-L8-835U-L8-835D-AF-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20659.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 15-MAR-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 2-72 LED-UP 4-72 LED-DOWN 23.75" ARRAYS 8' LUMINAIRE

[MORE] WHITE ALUM BODY w/REFL & FLAT FROST LENSES-UP/DOWN

[LUMCAT] MX4WUD-8-00-L8-835U-L8-835D-AF-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	13464
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	113.6
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	8.00 ft
Luminous Width (90-270)	0.32 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8704	8513	8298
55	7930	7665	7399
65	6722	6521	6241
75	5096	4965	4965
85	2716	2910	2522

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**CANDELA TABULATION**

	<u><b>0.0</b></u>	<u><b>22.5</b></u>	<u><b>45.0</b></u>	<u><b>67.5</b></u>	<u><b>90.0</b></u>
<b>0</b>	2484	2484	2484	2484	2484
<b>5</b>	2512	2476	2464	2456	2452
<b>10</b>	2460	2420	2412	2396	2396
<b>15</b>	2384	2344	2328	2316	2308
<b>20</b>	2272	2236	2220	2208	2196
<b>25</b>	2140	2104	2092	2072	2064
<b>30</b>	1980	1956	1944	1916	1892
<b>35</b>	1808	1804	1784	1752	1732
<b>40</b>	1640	1612	1608	1576	1560
<b>45</b>	1456	1436	1424	1384	1388
<b>50</b>	1264	1252	1240	1208	1196
<b>55</b>	1076	1064	1040	1016	1004
<b>60</b>	868	864	836	824	812
<b>65</b>	672	668	652	640	624
<b>70</b>	496	484	464	472	464
<b>75</b>	312	304	304	312	304
<b>80</b>	156	172	172	172	160
<b>85</b>	56	60	60	60	52
<b>90</b>	4	4	4	4	4
<b>95</b>	92	96	92	80	80
<b>100</b>	216	212	212	196	180
<b>105</b>	372	372	352	332	304
<b>110</b>	584	572	536	520	492
<b>115</b>	792	772	748	708	676
<b>120</b>	1048	1048	984	940	916
<b>125</b>	1304	1324	1236	1208	1168
<b>130</b>	1580	1596	1520	1476	1444
<b>135</b>	1832	1808	1784	1764	1756
<b>140</b>	2068	2064	2052	2024	2032
<b>145</b>	2272	2276	2264	2244	2276
<b>150</b>	2460	2468	2464	2436	2476
<b>155</b>	2604	2616	2616	2596	2636
<b>160</b>	2716	2740	2728	2716	2740
<b>165</b>	2808	2832	2808	2808	2820
<b>170</b>	2860	2888	2864	2860	2852
<b>175</b>	2900	2924	2900	2896	2876
<b>180</b>	2908	2908	2908	2908	2908

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	891.18	N.A.	6.60
0-30	1854.01	N.A.	13.80
0-40	2964.49	N.A.	22.00
0-60	4987.01	N.A.	37.00
0-80	5966.96	N.A.	44.30
0-90	6045.75	N.A.	44.90
10-90	5811.84	N.A.	43.20
20-40	2073.31	N.A.	15.40
20-50	3166.93	N.A.	23.50
40-70	2670.83	N.A.	19.80
60-80	979.95	N.A.	7.30
70-80	331.63	N.A.	2.50
80-90	78.79	N.A.	0.60
90-110	485.54	N.A.	3.60
90-120	1230.48	N.A.	9.10
90-130	2351.94	N.A.	17.50
90-150	5146.56	N.A.	38.20
90-180	7418.14	N.A.	55.10
110-180	6932.6	N.A.	51.50
0-180	13463.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	233.92
10-20	657.26
20-30	962.84
30-40	1110.48
40-50	1093.61
50-60	928.91
60-70	648.31
70-80	331.63
80-90	78.79
90-100	104.94
100-110	380.60
110-120	744.93
120-130	1121.47
130-140	1379.62
140-150	1414.99
150-160	1201.81
160-170	793.94
170-180	275.83

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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	212	212	212	212	194	194	194	194	161	161	161	131	131	131	103	103	103	90
1	194	185	178	171	177	170	164	158	142	137	133	116	112	110	92	90	88	76
2	177	162	150	140	161	149	139	130	125	117	111	102	97	92	81	77	74	65
3	161	143	128	117	147	131	119	109	110	101	93	90	84	78	72	67	64	55
4	148	126	111	99	135	117	103	92	98	88	80	81	73	67	64	59	55	47
5	135	113	97	85	124	104	90	79	88	77	69	72	64	58	58	52	48	41
6	125	101	85	74	114	93	79	69	79	68	60	65	57	51	53	47	42	36
7	115	91	76	65	106	84	71	61	72	61	53	60	51	45	48	42	38	32
8	107	83	68	57	98	77	63	54	65	55	47	54	46	40	44	38	34	29
9	100	76	61	51	91	70	57	48	60	49	42	50	42	36	41	35	31	26
10	93	69	55	46	85	64	52	43	55	45	38	46	38	33	38	32	28	24

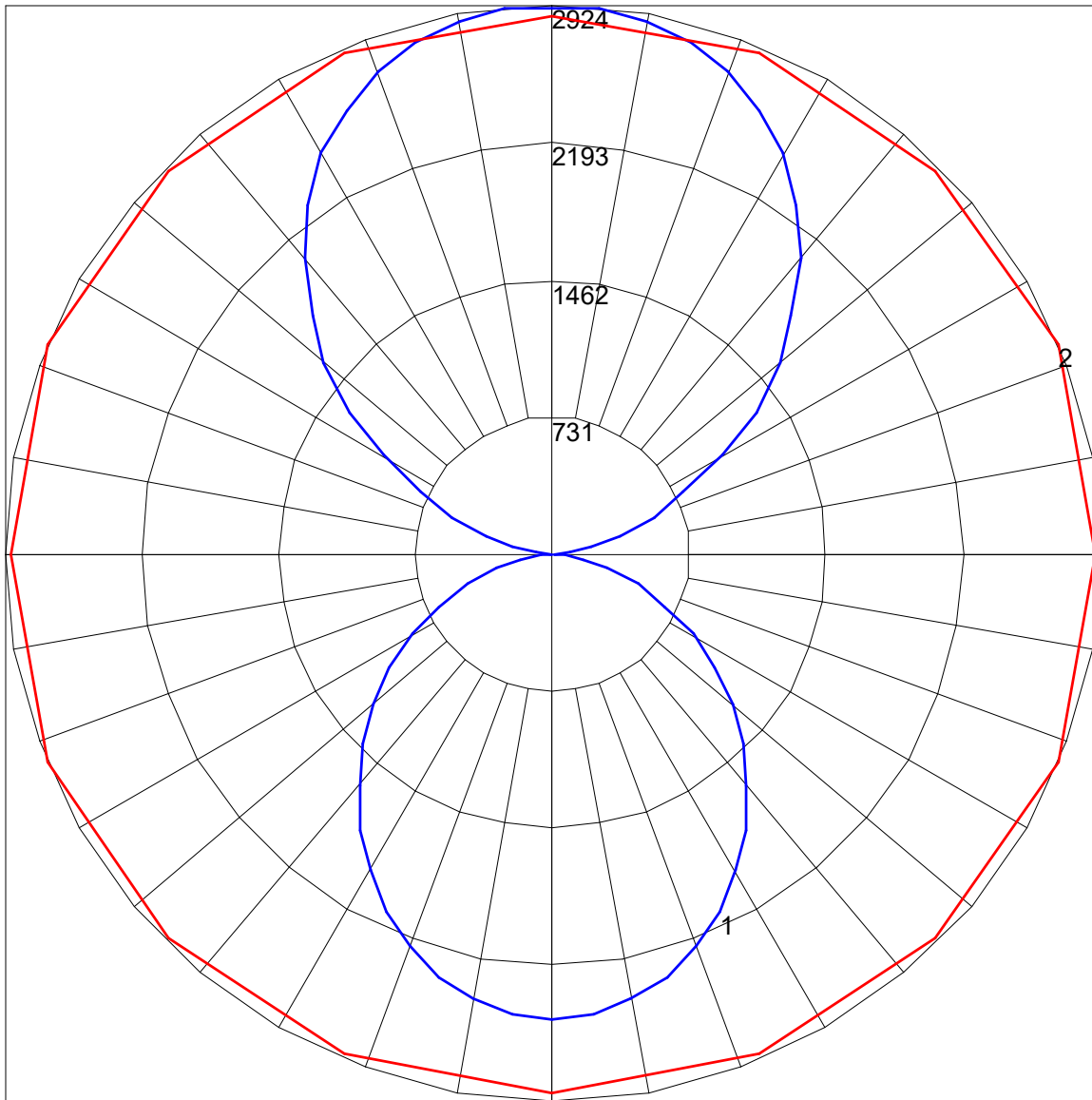
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**UGR TABLE - CORRECTED**

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	14.8	15.6	15.8	16.6	18.0	14.4	15.3	15.4	16.3	17.6
	3H	16.3	17.0	17.3	18.0	19.4	15.9	16.7	16.9	17.7	19.0
	4H	16.7	17.4	17.8	18.4	19.8	16.4	17.1	17.4	18.1	19.5
	6H	17.0	17.6	18.0	18.7	20.0	16.7	17.3	17.7	18.4	19.8
	8H	17.0	17.6	18.1	18.7	20.1	16.8	17.4	17.8	18.4	19.8
	12H	17.1	17.6	18.1	18.7	20.1	16.8	17.4	17.8	18.4	19.8
4H	2H	15.2	15.9	16.3	16.9	18.3	14.9	15.6	16.0	16.6	18.0
	3H	16.9	17.5	17.9	18.5	19.9	16.6	17.2	17.6	18.2	19.6
	4H	17.5	18.0	18.5	19.0	20.4	17.2	17.7	18.3	18.8	20.2
	6H	17.8	18.3	18.9	19.3	20.7	17.6	18.1	18.7	19.1	20.5
	8H	17.9	18.3	19.0	19.4	20.8	17.7	18.1	18.8	19.2	20.6
	12H	17.9	18.3	19.0	19.4	20.8	17.7	18.1	18.8	19.2	20.6
8H	4H	17.6	18.0	18.7	19.1	20.5	17.4	17.8	18.4	18.9	20.3
	6H	18.1	18.4	19.1	19.5	20.9	17.9	18.3	19.0	19.4	20.8
	8H	18.2	18.5	19.3	19.6	21.0	18.1	18.4	19.1	19.5	20.9
	12H	18.3	18.6	19.4	19.7	21.1	18.2	18.4	19.2	19.5	21.0
12H	4H	17.6	18.0	18.6	19.0	20.5	17.4	17.8	18.4	18.8	20.2
	6H	18.1	18.4	19.2	19.5	20.9	17.9	18.2	19.0	19.3	20.8
	8H	18.3	18.5	19.4	19.6	21.1	18.1	18.4	19.2	19.5	20.9

Maximum UGR = 21.1

POLAR GRAPH



Maximum Candela = 2924 Located At Horizontal Angle = 22.5, Vertical Angle = 175  
# 1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)