



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L8-840-F-(L4)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 29653.0
 [TESTLABV] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 22-NOV-2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-72 LED 23.75"ARRAYS 4'DOWNLIGHT LUMINAIRE
 [MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS
 [LUMCAT] MX4D-4-00-L8-835-F-(L4)-DIM-UNV
 [LAMPCAT] MX2472_2835 REV A 10560314

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1780
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	15
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 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	5111	4956	4878
55	4694	4503	4375
65	3995	3930	3800
75	3032	3173	2997
85	1466	1885	1780

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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>
0	724.306	724.306	724.306	724.306	724.306
5	727.544	719.988	716.750	714.591	714.591
10	714.591	707.035	703.796	701.637	699.478
15	689.763	684.366	678.969	676.810	673.572
20	660.619	653.062	648.745	642.268	640.109
25	622.838	614.203	609.885	602.329	601.249
30	585.058	575.343	566.707	564.548	559.151
35	532.165	525.688	518.132	510.576	510.576
40	482.511	476.034	466.319	464.160	456.604
45	427.459	420.982	414.506	408.029	408.029
50	375.646	367.010	361.613	357.295	351.898
55	318.435	310.879	305.482	300.085	296.847
60	259.066	254.748	251.510	247.192	243.954
65	199.697	198.617	196.458	191.061	189.982
70	147.884	146.804	143.566	141.407	139.248
75	92.832	96.070	97.150	93.911	91.753
80	47.495	49.654	49.654	50.734	51.813
85	15.112	16.192	19.430	17.271	18.351
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	259.86	N.A.	14.60
0-30	541.06	N.A.	30.40
0-40	866.20	N.A.	48.70
0-60	1461.25	N.A.	82.10
0-80	1756.78	N.A.	98.70
0-90	1779.84	N.A.	100.00
10-90	1711.69	N.A.	96.20
20-40	606.34	N.A.	34.10
20-50	927.24	N.A.	52.10
40-70	789.44	N.A.	44.40
60-80	295.53	N.A.	16.60
70-80	101.13	N.A.	5.70
80-90	23.06	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	1779.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	68.15
10-20	191.71
20-30	281.20
30-40	325.14
40-50	320.89
50-60	274.15
60-70	194.40
70-80	101.13
80-90	23.06
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	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	62	56	66	60	55	64	59	55	52
5	77	65	56	50	75	64	56	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	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	17.3	18.9	17.7	19.2	19.5	UGR Viewed Endwise			
	3H	18.9	20.3	19.3	20.6	21.0	17.0	18.6	17.4	18.9
	4H	19.4	20.7	19.8	21.1	21.5	18.6	20.0	19.0	20.3
	6H	19.7	21.0	20.1	21.3	21.7	19.1	20.5	19.5	20.8
	8H	19.8	21.0	20.2	21.4	21.8	19.5	20.7	19.9	21.1
	12H	19.8	20.9	20.2	21.3	21.8	19.6	20.8	20.0	21.2

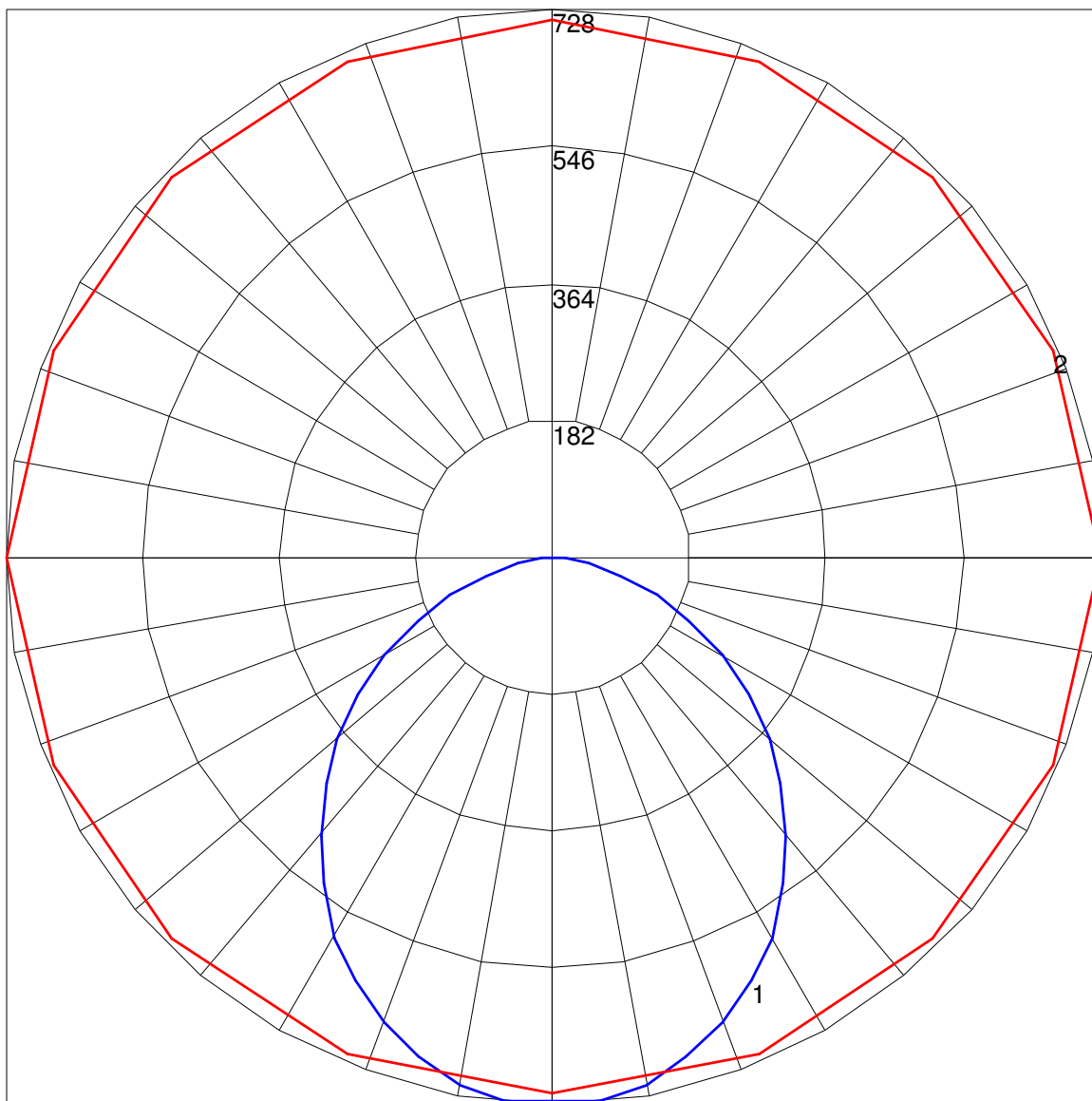
4H	2H	17.8	19.2	18.2	19.5	19.9	17.6	19.0	18.0	19.3	19.7
	3H	19.6	20.8	20.0	21.2	21.6	19.4	20.5	19.8	20.9	21.3
	4H	20.3	21.3	20.7	21.7	22.1	20.0	21.1	20.5	21.5	21.9
	6H	20.7	21.6	21.1	22.0	22.5	20.5	21.4	21.0	21.8	22.3
	8H	20.8	21.6	21.2	22.0	22.5	20.6	21.5	21.1	21.9	22.4
	12H	20.8	21.6	21.3	22.0	22.5	20.7	21.5	21.2	21.9	22.4

8H	4H	20.5	21.3	21.0	21.8	22.2	20.3	21.1	20.8	21.6	22.0
	6H	21.0	21.7	21.5	22.2	22.6	20.9	21.5	21.3	22.0	22.5
	8H	21.1	21.8	21.6	22.3	22.8	21.0	21.6	21.5	22.2	22.6
	12H	21.2	21.8	21.8	22.3	22.8	21.2	21.7	21.7	22.2	22.8

12H	4H	20.5	21.3	21.0	21.7	22.2	20.3	21.1	20.8	21.5	22.0
	6H	21.0	21.6	21.5	22.1	22.6	20.9	21.5	21.4	22.0	22.5
	8H	21.2	21.8	21.7	22.2	22.8	21.1	21.6	21.6	22.1	22.7

Maximum UGR = 22.8

POLAR GRAPH



Maximum Candela = 727.544 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)