



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4S-4-00-L8-830-F-(L4)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20649.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 10/28/2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' SURFACE MOUNT LINEAR LED LUMINAIRE

[MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS

[LUMCAT] MX4S-4-00-L8-830-F-(L4)-DIM-UNV

[LAMPCAT] HLMX 80 CRI 3000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1608
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	13.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.06
Spacing Criterion (Diagonal)	1.20
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5396	4676	4241
55	4468	3735	3396
65	3366	2831	2563
75	2311	2030	1811
85	1113	928	742

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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	764.308	764.308	764.308	764.308	764.308
5	767.077	758.769	755.077	750.462	749.538
10	752.308	740.308	732.000	723.692	720.000
15	729.231	718.154	695.077	684.000	678.462
20	700.615	678.462	653.538	636.000	628.615
25	661.846	636.000	603.692	588.000	583.385
30	616.615	585.231	552.923	537.231	529.846
35	562.154	528.923	496.615	480.923	471.692
40	501.231	472.615	433.846	419.077	408.923
45	435.692	408.923	377.538	352.615	342.462
50	363.692	337.846	306.462	287.077	284.308
55	292.615	272.308	244.615	234.462	222.462
60	231.692	206.769	189.231	177.231	171.692
65	162.462	148.615	136.615	128.308	123.692
70	116.308	101.538	96.000	88.615	86.769
75	68.308	64.615	60.000	56.308	53.538
80	37.846	36.000	34.154	31.385	29.538
85	11.077	11.077	9.231	9.231	7.385
90	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4S-4-00-L8-830-F-(L4)-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	268.40	N.A.	16.70
0-30	550.34	N.A.	34.20
0-40	866.28	N.A.	53.90
0-60	1386.22	N.A.	86.20
0-80	1593.28	N.A.	99.10
0-90	1607.76	N.A.	100.00
10-90	1536.33	N.A.	95.60
20-40	597.88	N.A.	37.20
20-50	891.65	N.A.	55.50
40-70	660.64	N.A.	41.10
60-80	207.06	N.A.	12.90
70-80	66.36	N.A.	4.10
80-90	14.47	N.A.	0.90
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	1607.76	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	71.43
10-20	196.98
20-30	281.94
30-40	315.94
40-50	293.77
50-60	226.17
60-70	140.70
70-80	66.36
80-90	14.47
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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	89	87
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	68	76	71	67	74	70	66	64
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56
5	79	67	59	53	77	66	59	53	64	57	52	62	56	52	61	55	51	49
6	74	61	53	47	72	60	52	47	58	51	46	57	51	46	55	50	45	44
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	43	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	40	35	31	29

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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

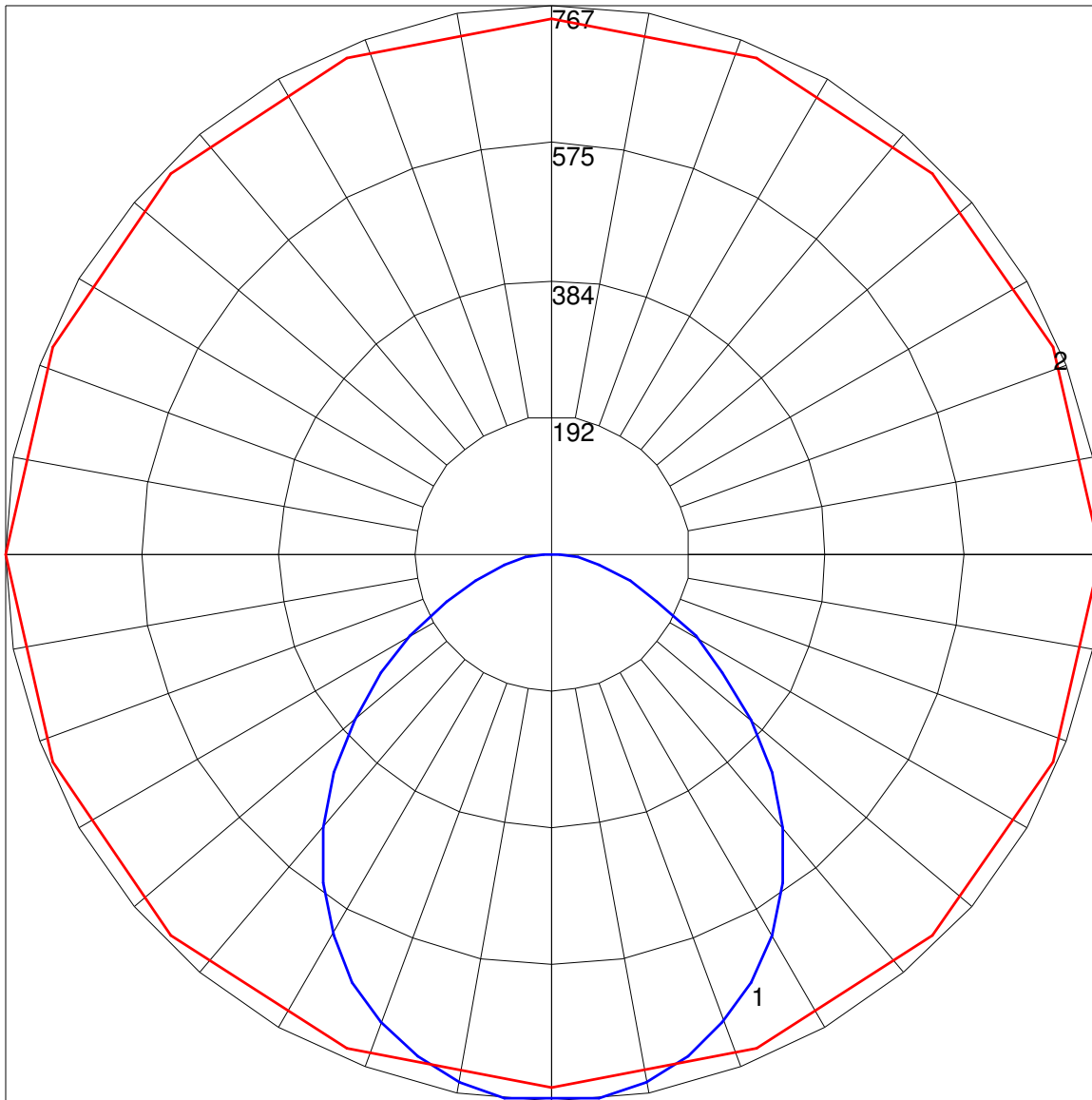
X=2H	Y=2H	16.8	18.4	17.2	18.7	19.0	15.6	17.1	16.0	17.4	17.8
	3H	18.1	19.5	18.5	19.8	20.2	16.8	18.2	17.2	18.5	18.8
	4H	18.5	19.8	18.9	20.1	20.5	17.2	18.4	17.6	18.8	19.2
	6H	18.7	19.9	19.2	20.3	20.7	17.4	18.6	17.8	18.9	19.3
	8H	18.8	19.9	19.2	20.3	20.7	17.5	18.6	17.9	19.0	19.4
	12H	18.8	19.9	19.3	20.3	20.7	17.5	18.5	17.9	18.9	19.3

UGR Viewed Endwise

4H	2H	17.1	18.4	17.5	18.8	19.1	16.1	17.4	16.5	17.7	18.1
	3H	18.6	19.7	19.0	20.1	20.5	17.5	18.5	17.9	18.9	19.3
	4H	19.1	20.0	19.5	20.5	20.9	18.0	18.9	18.4	19.3	19.8
	6H	19.5	20.3	19.9	20.7	21.2	18.3	19.1	18.8	19.6	20.0
	8H	19.5	20.3	20.0	20.8	21.2	18.4	19.1	18.8	19.6	20.1
	12H	19.6	20.3	20.1	20.8	21.2	18.4	19.1	18.9	19.6	20.0
8H	4H	19.2	20.0	19.7	20.4	20.9	18.2	18.9	18.6	19.4	19.9
	6H	19.7	20.3	20.1	20.8	21.3	18.6	19.2	19.1	19.7	20.2
	8H	19.8	20.4	20.3	20.9	21.4	18.7	19.3	19.2	19.8	20.3
	12H	19.9	20.4	20.4	20.9	21.4	18.8	19.3	19.3	19.8	20.3
12H	4H	19.2	19.9	19.7	20.4	20.8	18.2	18.9	18.7	19.4	19.8
	6H	19.7	20.2	20.2	20.7	21.2	18.6	19.2	19.1	19.7	20.2
	8H	19.8	20.3	20.4	20.8	21.4	18.8	19.3	19.3	19.8	20.3

Maximum UGR = 21.4

POLAR GRAPH



Maximum Candela = 767.077 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.)