



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L8-8TW-F-A-DIM-UNV 4000K.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 29653.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 13-MAR-2020

[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-L8-8TW-F-A-DIM-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3284
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	26.8
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	9429	9143	9000
55	8659	8307	8072
65	7370	7251	7012
75	5594	5855	5529
85	2705	3477	3284

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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	1336.303	1336.303	1336.303	1336.303	1336.303
5	1342.278	1328.337	1322.363	1318.380	1318.380
10	1318.380	1304.439	1298.465	1294.482	1290.499
15	1272.575	1262.617	1252.660	1248.677	1242.702
20	1218.804	1204.864	1196.898	1184.948	1180.965
25	1149.101	1133.169	1125.203	1111.263	1109.271
30	1079.398	1061.475	1045.543	1041.560	1031.602
35	981.814	969.865	955.925	941.984	941.984
40	890.205	878.256	860.332	856.349	842.409
45	788.638	776.689	764.740	752.791	752.791
50	693.045	677.113	667.156	659.190	649.232
55	587.495	573.555	563.597	553.640	547.665
60	477.962	469.996	464.022	456.056	450.081
65	368.429	366.438	362.455	352.497	350.506
70	272.837	270.845	264.871	260.888	256.905
75	171.270	177.244	179.236	173.261	169.278
80	87.626	91.609	91.609	93.601	95.592
85	27.881	29.873	35.847	31.864	33.856
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	479.42	N.A.	14.60
0-30	998.23	N.A.	30.40
0-40	1598.1	N.A.	48.70
0-60	2695.92	N.A.	82.10
0-80	3241.15	N.A.	98.70
0-90	3283.7	N.A.	100.00
10-90	3157.97	N.A.	96.20
20-40	1118.67	N.A.	34.10
20-50	1710.7	N.A.	52.10
40-70	1456.48	N.A.	44.40
60-80	545.23	N.A.	16.60
70-80	186.58	N.A.	5.70
80-90	42.55	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	3283.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.73
10-20	353.69
20-30	518.81
30-40	599.87
40-50	592.03
50-60	505.79
60-70	358.65
70-80	186.58
80-90	42.55
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	80	80	80	80	79	79	79	79	75	75	75	72	72	72	69	69	69	68
1	74	71	68	66	72	69	67	65	66	64	63	64	62	61	61	60	59	57
2	68	62	58	54	66	61	57	53	59	55	52	56	54	51	54	52	50	48
3	62	55	50	45	60	54	49	45	52	48	44	50	46	43	48	45	43	41
4	57	49	43	39	55	48	43	38	46	42	38	45	41	37	43	40	37	35
5	52	44	38	34	51	43	38	33	42	37	33	40	36	33	39	35	32	31
6	48	40	34	29	47	39	33	29	38	33	29	37	32	29	36	32	29	27
7	45	36	30	26	44	35	30	26	34	29	26	33	29	26	33	29	25	24
8	42	33	27	23	41	32	27	23	32	27	23	31	26	23	30	26	23	22
9	39	30	25	21	38	30	25	21	29	24	21	28	24	21	28	24	21	20
10	37	28	23	19	36	28	23	19	27	22	19	26	22	19	26	22	19	18

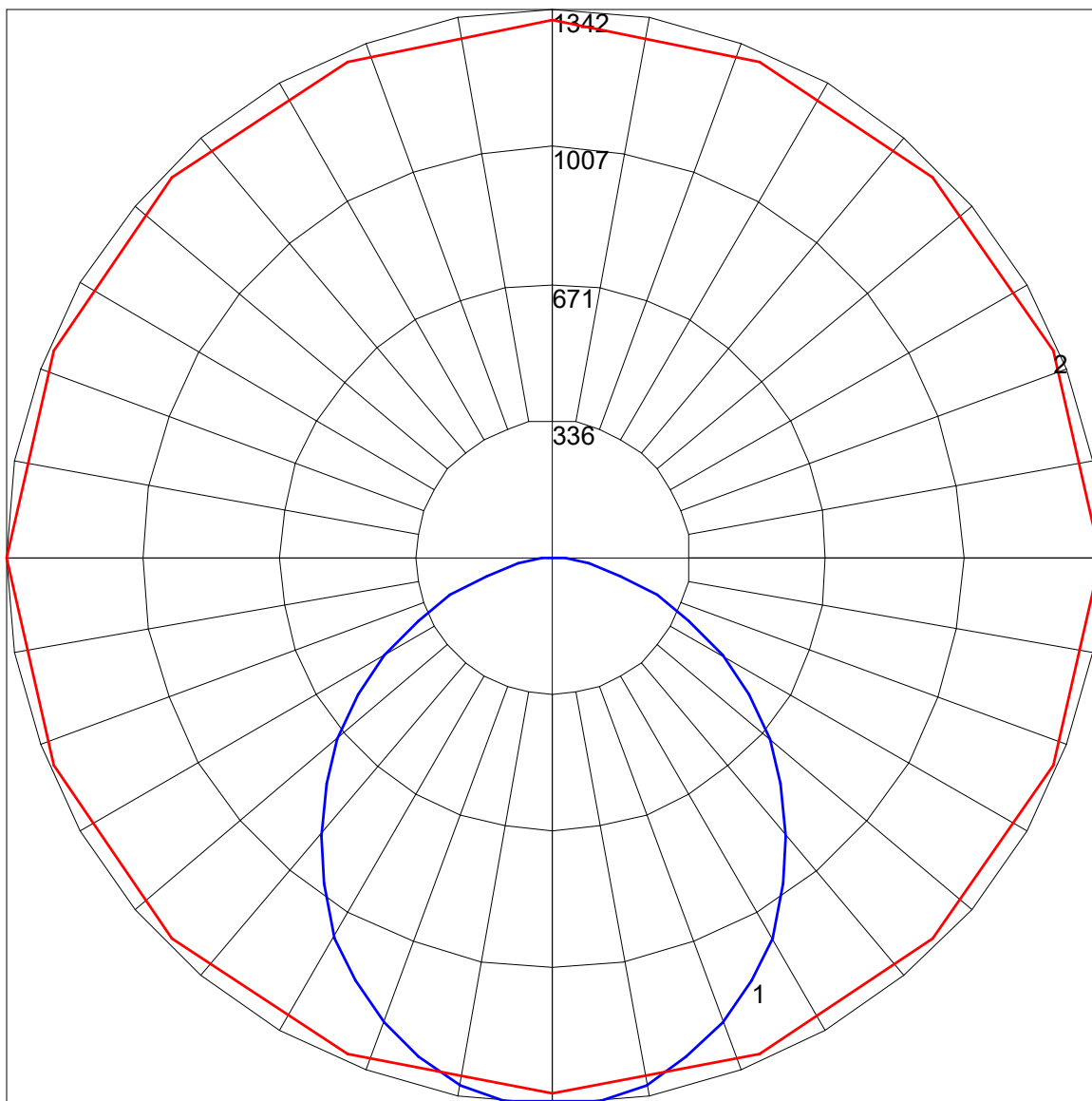
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UGR TABLE - CORRECTED

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	20.8	22.4	21.2	22.7	23.0	20.5	22.1	20.9	22.4	22.8
	3H	22.4	23.8	22.8	24.1	24.5	22.1	23.5	22.5	23.8	24.2
	4H	22.9	24.2	23.3	24.6	25.0	22.6	24.0	23.0	24.3	24.7
	6H	23.2	24.5	23.6	24.8	25.2	23.0	24.2	23.4	24.6	25.0
	8H	23.3	24.5	23.7	24.9	25.3	23.1	24.3	23.5	24.7	25.1
	12H	23.3	24.4	23.7	24.8	25.3	23.1	24.3	23.6	24.7	25.1
4H	2H	21.3	22.7	21.7	23.0	23.4	21.1	22.5	21.5	22.8	23.2
	3H	23.1	24.3	23.5	24.7	25.1	22.9	24.0	23.3	24.4	24.8
	4H	23.8	24.8	24.2	25.2	25.6	23.5	24.6	24.0	25.0	25.4
	6H	24.2	25.1	24.6	25.5	26.0	24.0	24.9	24.5	25.3	25.8
	8H	24.3	25.1	24.7	25.5	26.0	24.1	25.0	24.6	25.4	25.9
	12H	24.3	25.1	24.8	25.5	26.0	24.2	25.0	24.7	25.4	25.9
8H	4H	24.0	24.8	24.5	25.3	25.7	23.8	24.6	24.3	25.1	25.5
	6H	24.5	25.2	25.0	25.7	26.1	24.4	25.0	24.8	25.5	26.0
	8H	24.6	25.3	25.1	25.8	26.3	24.5	25.1	25.0	25.7	26.1
	12H	24.7	25.3	25.3	25.8	26.3	24.7	25.2	25.2	25.7	26.3
12H	4H	24.0	24.8	24.5	25.2	25.7	23.8	24.6	24.3	25.0	25.5
	6H	24.5	25.1	25.0	25.6	26.1	24.4	25.0	24.9	25.5	26.0
	8H	24.7	25.3	25.2	25.7	26.3	24.6	25.1	25.1	25.6	26.2

Maximum UGR = 26.3

POLAR GRAPH



Maximum Candela = 1342.278 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.)