



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4RG-4-00-L12-827-F-ASY-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TESTLAB] GEN FROM Photopia 2022.1.0 see: www.ltiophics.com/ies
[ISSUE DATE] 12/21/22
[TEST DATE] Tue Dec 20 16:54:26 2022
[TEST] MX4R ASY
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT] MX4RG-4-00-L12-827-F-ASY-DIM-UNV
[LUMINAIRE] 4" INCH WIDE LINEAR RECESSED LED
[MORE] WITH INTERNAL ASYMMETRIC REFLECTOR
[LAMP] LED
[LAMPCAT] HLM 80 CRI 2700K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5001
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	43.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.46
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.41 ft
Luminous Width (90-270)	4.06 ft
Luminous Height	0.31 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7947	8519	10473
55	5805	6672	9078
65	3772	4581	7478
75	1866	2384	5149
85	390	571	2209

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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	1948.332	1948.332	1948.332	1948.332	1948.332	1948.332	1948.332	1948.332	1948.332
5	2043.949	2056.355	2011.274	1983.931	1962.971	1962.437	1913.530	1870.717	1861.673
10	2074.758	2076.684	2034.834	1997.616	1932.757	1854.415	1813.361	1771.879	1766.749
15	2110.401	2089.038	2060.522	1959.609	1861.804	1785.187	1683.617	1626.857	1620.807
20	2086.560	2063.622	2016.151	1922.881	1798.136	1673.987	1564.922	1495.528	1453.976
25	2059.769	2038.608	1985.280	1858.346	1734.512	1587.975	1447.944	1357.589	1342.005
30	1988.125	1973.880	1929.587	1795.912	1629.991	1462.836	1311.195	1226.637	1187.921
35	1885.111	1848.584	1795.623	1693.257	1516.926	1326.324	1176.093	1085.441	1057.372
40	1700.935	1685.561	1638.502	1548.436	1372.981	1195.144	1033.382	955.110	931.471
45	1521.348	1502.576	1475.050	1393.810	1227.898	1048.459	901.712	833.360	815.298
50	1312.938	1295.506	1286.768	1217.278	1058.282	895.557	777.685	717.563	696.104
55	1067.703	1083.086	1085.791	1022.316	889.481	743.899	646.820	601.249	583.520
60	846.939	863.005	875.315	839.506	733.568	610.959	527.828	483.973	479.963
65	644.430	665.592	675.231	647.214	566.439	471.952	408.327	378.533	372.939
70	452.226	456.832	481.241	466.243	411.418	343.328	297.144	279.231	272.927
75	284.703	287.943	304.192	302.363	263.726	221.184	194.726	186.032	185.305
80	145.968	148.901	158.076	163.259	142.185	120.726	110.561	106.543	103.872
85	50.509	53.897	59.317	60.017	55.491	47.839	45.466	42.892	43.724
90	4.141	4.614	5.735	7.153	8.011	6.707	5.455	6.164	5.577
95	0.026	0.245	0.928	1.488	2.084	1.987	1.506	0.263	0.201
100	0.166	0.315	0.814	2.066	2.373	1.453	0.937	0.359	0.079
105	0.070	0.482	1.348	2.198	2.136	1.410	1.138	0.368	0.263
110	0.219	0.403	1.199	1.734	1.786	0.762	0.797	0.587	0.289
115	0.254	0.604	0.753	1.270	1.331	0.928	0.534	0.508	0.420
120	0.219	0.648	0.657	1.112	1.121	0.578	0.411	0.657	0.324
125	0.350	0.709	0.727	0.832	0.832	0.657	0.517	0.893	0.298
130	0.201	1.059	0.779	0.805	0.665	0.744	0.946	1.016	0.236
135	0.149	1.121	1.033	0.823	0.981	0.744	0.989	1.261	0.166
140	0.193	1.042	1.506	0.841	0.744	0.770	1.164	1.042	0.184
145	0.053	0.919	1.882	1.226	1.164	0.814	1.348	1.217	0.254
150	0.123	0.858	1.567	1.856	1.199	1.261	1.191	1.042	0.114
155	0.000	0.849	1.497	1.357	1.576	1.261	1.270	0.735	0.000
160	0.026	0.735	0.841	1.646	1.348	1.480	0.753	0.359	0.000
165	0.000	0.648	0.814	0.744	1.129	1.024	0.972	0.201	0.000
170	0.000	0.088	0.569	0.832	0.683	0.779	0.420	0.175	0.000
175	0.000	0.000	0.175	0.123	0.587	0.517	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	712.04	N.A.	14.20
0-30	1500.59	N.A.	30.00
0-40	2430.22	N.A.	48.60
0-60	4122.54	N.A.	82.40
0-80	4927.92	N.A.	98.50
0-90	4994.2	N.A.	99.90
10-90	4808.29	N.A.	96.10
20-40	1718.18	N.A.	34.40
20-50	2637.64	N.A.	52.70
40-70	2228.59	N.A.	44.60
60-80	805.38	N.A.	16.10
70-80	269.10	N.A.	5.40
80-90	66.28	N.A.	1.30
90-110	3.68	N.A.	0.10
90-120	4.47	N.A.	0.10
90-130	5.11	N.A.	0.10
90-150	6.44	N.A.	0.10
90-180	7.15	N.A.	0.10
110-180	3.47	N.A.	0.10
0-180	5001.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	185.91
10-20	526.13
20-30	788.55
30-40	929.63
40-50	919.46
50-60	772.85
60-70	536.28
70-80	269.10
80-90	66.28
90-100	2.54
100-110	1.14
110-120	0.79
120-130	0.63
130-140	0.67
140-150	0.66
150-160	0.49
160-170	0.20
170-180	0.02

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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	86	80	97	90	84	79	87	82	77	83	79	76	80	77	74	72
3	91	81	73	67	89	80	72	67	77	71	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55	53
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	38	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	34	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	31	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

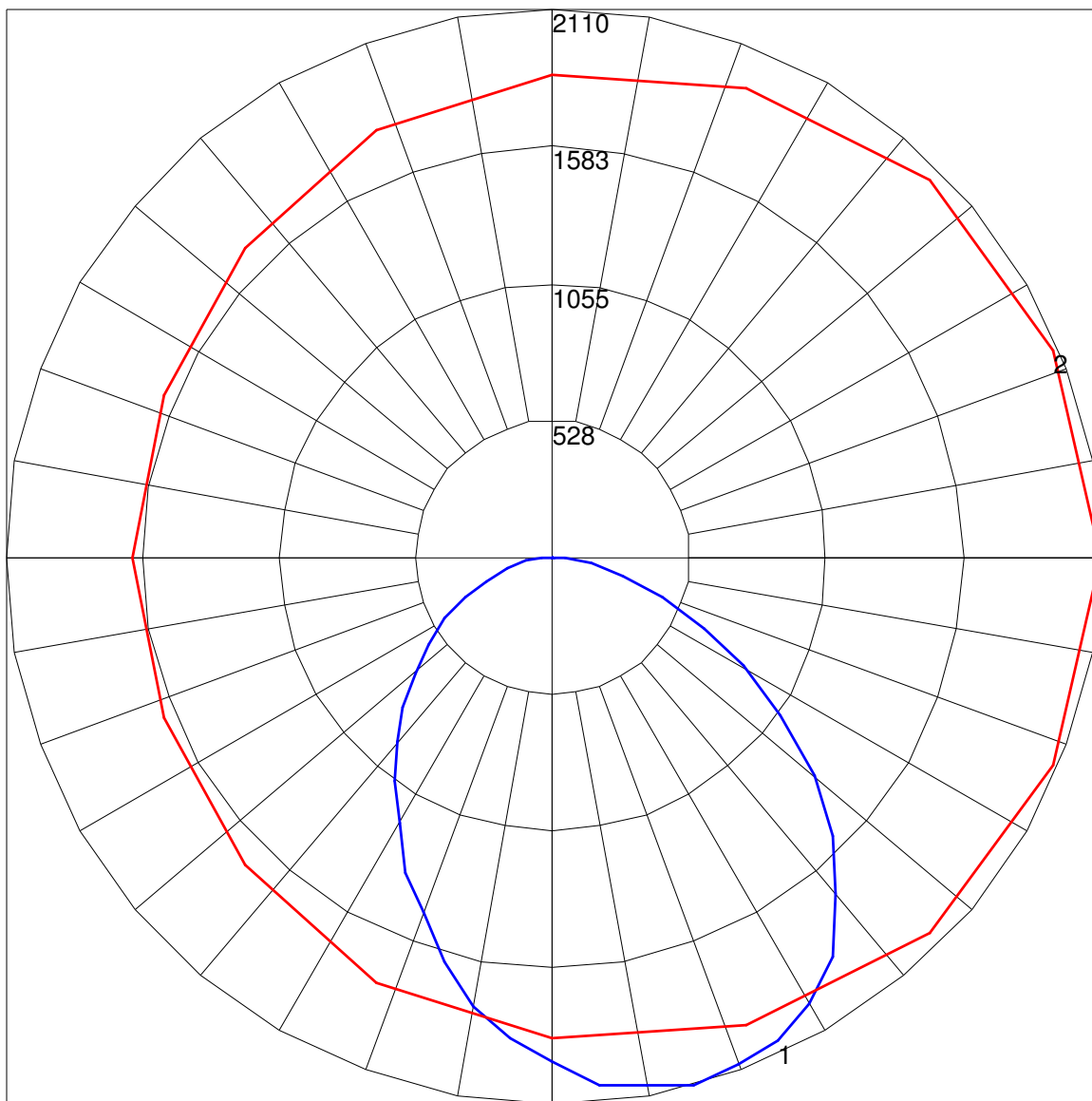
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	20.0	21.5	20.3	21.8	22.2	17.4	19.0	17.8	19.3	19.6
	3H	21.3	22.7	21.6	23.0	23.4	18.6	20.0	18.9	20.3	20.7
	4H	21.7	23.0	22.1	23.4	23.7	18.9	20.2	19.3	20.6	21.0
	6H	21.9	23.1	22.3	23.5	23.9	19.1	20.3	19.5	20.7	21.0
	8H	21.9	23.1	22.4	23.5	23.9	19.1	20.2	19.5	20.6	21.0
	12H	21.9	23.1	22.4	23.5	23.9	19.1	20.2	19.5	20.6	21.0
4H	2H	20.3	21.6	20.7	22.0	22.3	17.9	19.3	18.3	19.6	20.0
	3H	21.7	22.8	22.1	23.2	23.6	19.3	20.4	19.7	20.8	21.2
	4H	22.2	23.2	22.6	23.6	24.0	19.6	20.7	20.1	21.1	21.5
	6H	22.5	23.4	22.9	23.8	24.3	19.9	20.7	20.3	21.2	21.6
	8H	22.5	23.4	23.0	23.8	24.3	19.9	20.7	20.4	21.2	21.6
	12H	22.6	23.3	23.0	23.8	24.2	19.9	20.6	20.4	21.1	21.6
8H	4H	22.2	23.1	22.7	23.5	24.0	19.8	20.6	20.3	21.1	21.5
	6H	22.6	23.3	23.1	23.8	24.2	20.1	20.8	20.6	21.2	21.7
	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	20.7	20.7	21.2	21.8
12H	4H	22.2	23.0	22.7	23.5	23.9	19.8	20.5	20.3	21.0	21.5
	6H	22.6	23.2	23.1	23.6	24.2	20.1	20.7	20.6	21.2	21.7
	8H	22.7	23.2	23.2	23.7	24.3	20.2	20.7	20.7	21.2	21.8

Maximum UGR = 24.3

POLAR GRAPH



Maximum Candela = 2110.401 Located At Horizontal Angle = 0, Vertical Angle = 15
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)