



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4S-4-00-L15-835-F-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] 15-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] MX4S-4-00-L15-835-F-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5755
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	54
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	16527	16026	15776
55	15178	14560	14149
65	12918	12709	12290
75	9806	10262	9692
85	4740	6095	5756

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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	2342.193	2342.193	2342.193	2342.193	2342.193
5	2352.664	2328.230	2317.758	2310.777	2310.777
10	2310.777	2286.343	2275.871	2268.890	2261.909
15	2230.493	2213.040	2195.587	2188.606	2178.134
20	2136.247	2111.813	2097.851	2076.907	2069.926
25	2014.076	1986.151	1972.189	1947.755	1944.264
30	1891.905	1860.490	1832.565	1825.584	1808.131
35	1720.866	1699.922	1675.488	1651.054	1651.054
40	1560.298	1539.355	1507.939	1500.958	1476.524
45	1382.278	1361.334	1340.390	1319.447	1319.447
50	1214.729	1186.804	1169.351	1155.389	1137.936
55	1029.727	1005.293	987.840	970.387	959.915
60	837.744	823.782	813.310	799.347	788.876
65	645.761	642.270	635.289	617.836	614.346
70	478.212	474.722	464.250	457.269	450.287
75	300.192	310.663	314.154	303.682	296.701
80	153.586	160.568	160.568	164.058	167.549
85	48.868	52.359	62.831	55.850	59.340
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	840.30	N.A.	14.60
0-30	1749.64	N.A.	30.40
0-40	2801.05	N.A.	48.70
0-60	4725.25	N.A.	82.10
0-80	5680.9	N.A.	98.70
0-90	5755.48	N.A.	100.00
10-90	5535.11	N.A.	96.20
20-40	1960.74	N.A.	34.10
20-50	2998.42	N.A.	52.10
40-70	2552.83	N.A.	44.40
60-80	955.65	N.A.	16.60
70-80	327.02	N.A.	5.70
80-90	74.57	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	5755.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	220.37
10-20	619.93
20-30	909.33
30-40	1051.41
40-50	1037.68
50-60	886.53
60-70	628.63
70-80	327.02
80-90	74.57
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	208	208	208	208	203	203	203	203	194	194	194	186	186	186	178	178	178	175
1	191	183	176	170	186	179	173	167	172	166	162	165	161	157	159	155	152	148
2	174	161	149	140	170	157	147	138	151	142	135	146	138	132	140	134	129	125
3	160	142	128	117	155	139	126	116	134	123	114	129	120	112	125	117	110	106
4	147	126	111	100	143	124	110	99	120	108	98	116	105	97	112	103	95	92
5	135	113	98	87	131	111	97	86	108	95	85	104	93	84	101	91	83	80
6	125	102	87	76	122	101	86	76	97	85	75	95	83	74	92	82	74	70
7	116	93	78	68	113	92	77	67	89	76	67	86	75	66	84	74	66	62
8	108	85	70	60	105	84	70	60	82	69	60	79	68	60	77	67	59	56
9	101	78	64	55	99	77	64	54	75	63	54	73	62	54	72	61	54	51
10	95	72	59	50	93	71	58	50	70	58	49	68	57	49	66	56	49	46

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UGR TABLE - CORRECTED

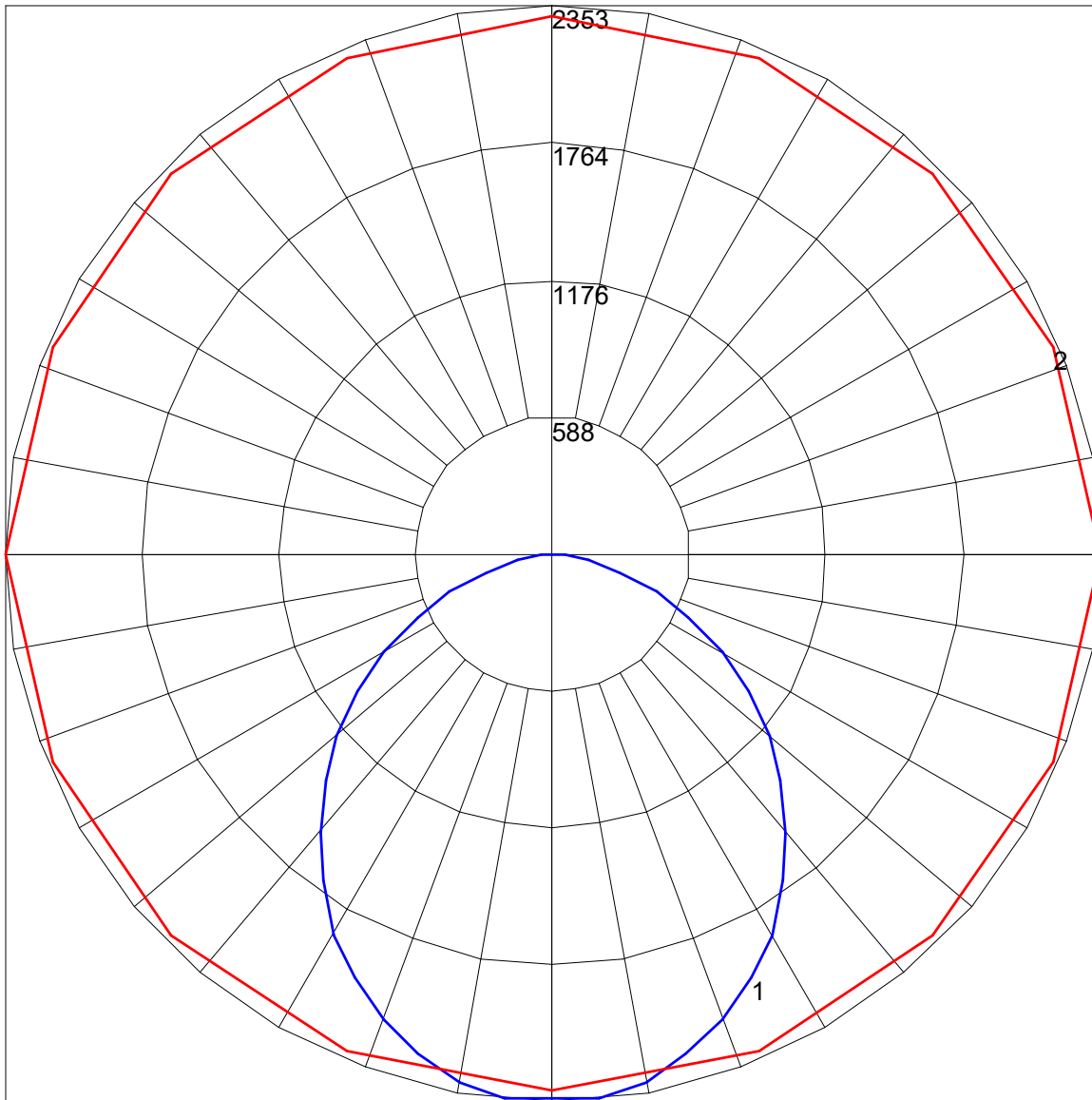
Reflectances

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	19.4	21.0	19.8	21.3	21.6	19.1	20.7	19.5	21.0	21.4
	3H	21.0	22.4	21.4	22.7	23.1	20.7	22.1	21.1	22.4	22.8
	4H	21.5	22.8	21.9	23.2	23.6	21.2	22.6	21.6	22.9	23.3
	6H	21.8	23.1	22.2	23.4	23.8	21.6	22.8	22.0	23.2	23.6
	8H	21.9	23.1	22.3	23.5	23.9	21.7	22.9	22.1	23.3	23.7
	12H	21.9	23.0	22.3	23.4	23.9	21.7	22.9	22.2	23.3	23.7
4H	2H	19.9	21.3	20.3	21.6	22.0	19.7	21.1	20.1	21.4	21.8
	3H	21.7	22.9	22.1	23.3	23.7	21.5	22.6	21.9	23.0	23.4
	4H	22.4	23.4	22.8	23.8	24.2	22.1	23.2	22.6	23.6	24.0
	6H	22.8	23.7	23.2	24.1	24.6	22.6	23.5	23.1	23.9	24.4
	8H	22.9	23.7	23.3	24.1	24.6	22.7	23.6	23.2	24.0	24.5
	12H	22.9	23.7	23.4	24.1	24.6	22.8	23.6	23.3	24.0	24.5
8H	4H	22.6	23.4	23.1	23.9	24.3	22.4	23.2	22.9	23.7	24.1
	6H	23.1	23.8	23.6	24.3	24.7	23.0	23.6	23.4	24.1	24.6
	8H	23.2	23.9	23.7	24.4	24.9	23.1	23.7	23.6	24.3	24.7
	12H	23.3	23.9	23.9	24.4	24.9	23.3	23.8	23.8	24.3	24.9
12H	4H	22.6	23.4	23.1	23.8	24.3	22.4	23.2	22.9	23.6	24.1
	6H	23.1	23.7	23.6	24.2	24.7	23.0	23.6	23.5	24.1	24.6
	8H	23.3	23.9	23.8	24.3	24.9	23.2	23.7	23.7	24.2	24.8

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 2352.664 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.)