



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-5-04-L8-835-F-(L6)-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] 08 JAN 2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-5-04-L8-835-F-(L6)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct
 [_SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3241
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	125
Total Luminaire Watts	26
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)	5.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6665	6463	6362
55	6121	5872	5706
65	5210	5125	4956
75	3955	4139	3909
85	1912	2458	2321

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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	1318.806	1318.806	1318.806	1318.806	1318.806
5	1324.702	1310.944	1305.048	1301.117	1301.117
10	1301.117	1287.359	1281.463	1277.532	1273.601
15	1255.912	1246.085	1236.258	1232.327	1226.431
20	1202.846	1189.088	1181.226	1169.433	1165.502
25	1134.055	1118.332	1110.470	1096.712	1094.747
30	1065.265	1047.576	1031.853	1027.922	1018.095
35	968.959	957.166	943.408	929.650	929.650
40	878.549	866.756	849.067	845.137	831.379
45	778.312	766.519	754.727	742.934	742.934
50	683.971	668.248	658.420	650.559	640.731
55	579.803	566.045	556.218	546.391	540.494
60	471.704	463.842	457.946	450.084	444.188
65	363.605	361.640	357.709	347.882	345.916
70	269.264	267.299	261.403	257.472	253.541
75	169.027	174.924	176.889	170.993	167.062
80	86.479	90.410	90.410	92.375	94.341
85	27.516	29.482	35.378	31.447	33.412
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	473.15	N.A.	14.60
0-30	985.16	N.A.	30.40
0-40	1577.17	N.A.	48.70
0-60	2660.62	N.A.	82.10
0-80	3198.72	N.A.	98.70
0-90	3240.71	N.A.	100.00
10-90	3116.62	N.A.	96.20
20-40	1104.02	N.A.	34.10
20-50	1688.31	N.A.	52.10
40-70	1437.41	N.A.	44.40
60-80	538.09	N.A.	16.60
70-80	184.13	N.A.	5.70
80-90	41.99	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	3240.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	124.08
10-20	349.06
20-30	512.01
30-40	592.01
40-50	584.28
50-60	499.17
60-70	353.96
70-80	184.13
80-90	41.99
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	18.2	19.8	18.6	20.1	20.5	18.0	19.6	18.3	19.9	20.2
	3H	19.8	21.3	20.2	21.6	21.9	19.5	21.0	19.9	21.3	21.7
	4H	20.3	21.7	20.7	22.0	22.4	20.1	21.4	20.5	21.8	22.1
	6H	20.7	21.9	21.1	22.3	22.6	20.4	21.7	20.8	22.0	22.4
	8H	20.7	21.9	21.1	22.3	22.7	20.5	21.7	20.9	22.1	22.5
	12H	20.8	21.9	21.2	22.3	22.7	20.6	21.7	21.0	22.1	22.5

UGR Viewed Endwise

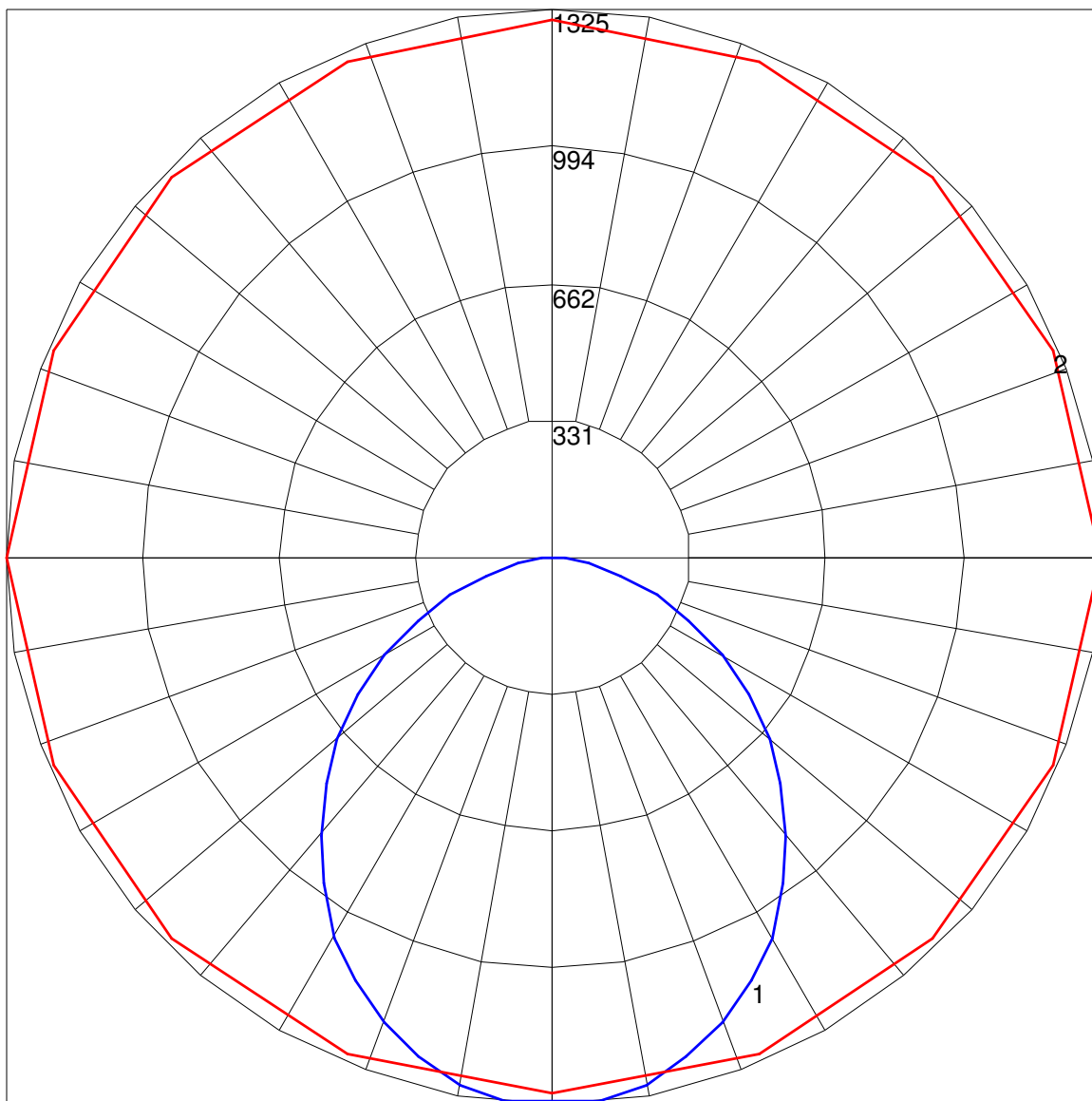
4H	2H	18.8	20.1	19.2	20.5	20.9	18.6	19.9	19.0	20.3	20.6
	3H	20.6	21.7	21.0	22.1	22.5	20.3	21.5	20.7	21.9	22.3
	4H	21.2	22.2	21.6	22.6	23.1	21.0	22.0	21.4	22.4	22.8
	6H	21.6	22.5	22.1	22.9	23.4	21.4	22.3	21.9	22.8	23.2
	8H	21.7	22.5	22.2	23.0	23.5	21.6	22.4	22.0	22.8	23.3
	12H	21.8	22.5	22.2	23.0	23.5	21.6	22.4	22.1	22.9	23.3

8H	4H	21.4	22.3	21.9	22.7	23.2	21.2	22.1	21.7	22.5	23.0
	6H	21.9	22.6	22.4	23.1	23.6	21.8	22.5	22.3	23.0	23.4
	8H	22.1	22.7	22.6	23.2	23.7	22.0	22.6	22.5	23.1	23.6
	12H	22.2	22.7	22.7	23.2	23.8	22.1	22.6	22.6	23.1	23.7

12H	4H	21.4	22.2	21.9	22.7	23.1	21.2	22.0	21.7	22.5	22.9
	6H	22.0	22.6	22.5	23.0	23.6	21.8	22.4	22.3	22.9	23.4
	8H	22.2	22.7	22.7	23.2	23.8	22.1	22.6	22.6	23.1	23.6

Maximum UGR = 23.8

POLAR GRAPH



Maximum Candela = 1324.702 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.)