



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-6-00-L12-835-F- (L10)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20195.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 27-JUL-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 6' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-6-L12-835-S-F-(L10)-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	6042
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	47.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	6.00 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	11619	11095	10680
55	10706	10207	9573
65	9472	8910	8530
75	7288	6991	6937
85	3367	4168	3848

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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	2387.087	2387.087	2387.087	2387.087	2387.087
5	2436.188	2383.310	2368.202	2355.611	2343.021
10	2403.454	2346.798	2329.172	2310.287	2296.438
15	2354.352	2291.402	2258.667	2228.451	2219.638
20	2251.113	2188.163	2170.537	2118.917	2110.104
25	2106.327	2057.226	2039.599	2000.570	1991.757
30	1961.541	1917.475	1894.813	1867.115	1853.266
35	1825.567	1773.948	1737.437	1721.069	1705.961
40	1674.486	1634.198	1581.319	1556.139	1535.995
45	1480.598	1452.900	1413.870	1389.949	1360.992
50	1301.818	1255.235	1247.681	1203.615	1179.694
55	1106.672	1078.973	1055.052	1017.282	989.583
60	926.633	886.344	872.495	838.502	814.581
65	721.414	700.011	678.607	657.204	649.650
70	530.044	511.159	497.310	477.166	485.979
75	339.933	341.192	326.084	326.084	323.566
80	167.449	177.521	172.485	182.557	169.967
85	52.879	62.951	65.469	76.800	60.433
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	863.41	N.A.	14.30
0-30	1801.8	N.A.	29.80
0-40	2896.62	N.A.	47.90
0-60	4931.61	N.A.	81.60
0-80	5958.66	N.A.	98.60
0-90	6042.01	N.A.	100.00
10-90	5816.66	N.A.	96.30
20-40	2033.21	N.A.	33.70
20-50	3127.93	N.A.	51.80
40-70	2709.62	N.A.	44.80
60-80	1027.04	N.A.	17.00
70-80	352.42	N.A.	5.80
80-90	83.35	N.A.	1.40
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	6042.01	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	225.35
10-20	638.07
20-30	938.39
30-40	1094.82
40-50	1094.72
50-60	940.27
60-70	674.62
70-80	352.42
80-90	83.35
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	99	99	99	99	96	96	96	96	92	92	92	88	88	88	84	84	84	83
1	90	87	83	80	88	85	82	79	81	79	76	78	76	74	75	73	72	70
2	83	76	71	66	80	74	69	65	71	67	64	69	65	62	66	63	61	59
3	75	67	60	55	73	66	60	55	63	58	54	61	57	53	59	55	52	50
4	69	60	52	47	67	58	52	47	56	51	46	55	50	45	53	48	45	43
5	64	53	46	41	62	52	46	41	51	45	40	49	44	40	48	43	39	37
6	59	48	41	36	57	47	41	36	46	40	35	45	39	35	43	38	35	33
7	55	44	37	32	53	43	36	32	42	36	31	41	35	31	40	35	31	29
8	51	40	33	28	50	39	33	28	38	32	28	37	32	28	36	31	28	26
9	48	37	30	26	47	36	30	25	35	29	25	34	29	25	34	29	25	24
10	45	34	28	23	44	34	27	23	33	27	23	32	27	23	31	26	23	21

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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	20.9	22.5	21.3	22.8	23.1	20.4	22.0	20.8	22.3	22.7
	3H	22.5	24.0	22.9	24.3	24.7	22.0	23.5	22.4	23.8	24.2
	4H	23.1	24.4	23.5	24.8	25.2	22.6	24.0	23.0	24.3	24.7
	6H	23.4	24.7	23.8	25.0	25.4	23.0	24.2	23.4	24.6	25.0
	8H	23.5	24.7	23.9	25.1	25.5	23.1	24.3	23.5	24.6	25.0
	12H	23.5	24.6	23.9	25.0	25.5	23.1	24.2	23.5	24.6	25.1

UGR Viewed Endwise

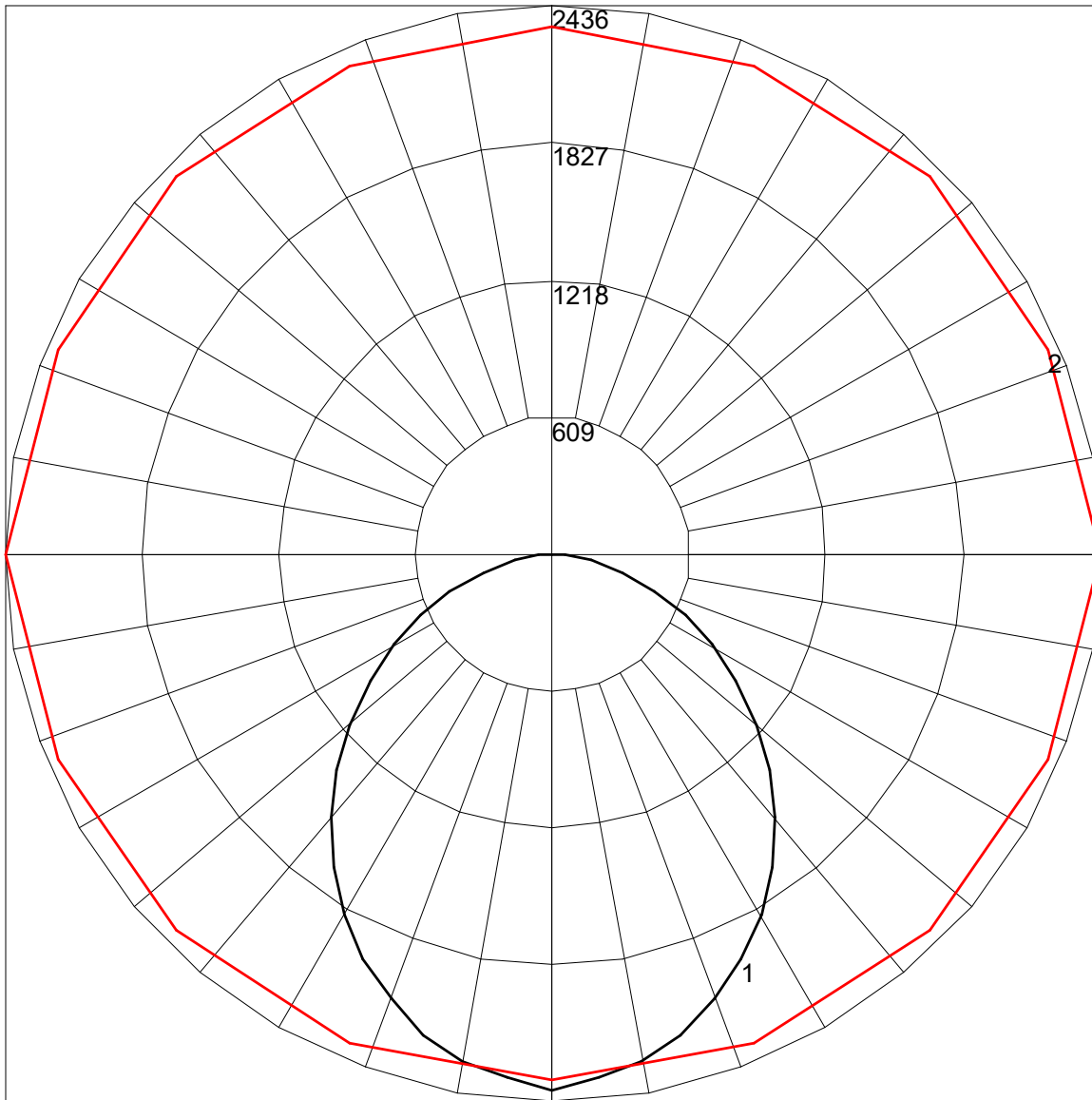
4H	2H	21.4	22.8	21.8	23.1	23.5	21.1	22.4	21.5	22.8	23.1
	3H	23.3	24.4	23.7	24.8	25.2	22.8	24.0	23.3	24.4	24.8
	4H	23.9	25.0	24.4	25.4	25.8	23.5	24.5	24.0	25.0	25.4
	6H	24.4	25.3	24.8	25.7	26.1	24.0	24.9	24.5	25.3	25.8
	8H	24.5	25.3	24.9	25.7	26.2	24.1	25.0	24.6	25.4	25.9
	12H	24.5	25.3	25.0	25.7	26.2	24.2	25.0	24.7	25.4	25.9

8H	4H	24.2	25.0	24.6	25.4	25.9	23.8	24.6	24.3	25.1	25.5
	6H	24.7	25.4	25.2	25.8	26.3	24.4	25.1	24.9	25.5	26.0
	8H	24.8	25.4	25.3	26.0	26.4	24.6	25.2	25.1	25.7	26.2
	12H	24.9	25.5	25.4	26.0	26.5	24.7	25.3	25.2	25.7	26.3

12H	4H	24.2	24.9	24.6	25.4	25.9	23.8	24.6	24.3	25.0	25.5
	6H	24.7	25.3	25.2	25.8	26.3	24.4	25.0	24.9	25.5	26.0
	8H	24.9	25.4	25.4	25.9	26.5	24.6	25.2	25.2	25.7	26.2

Maximum UGR = 26.5

POLAR GRAPH



Maximum Candela = 2436.188 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)