



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-8-00-L8-835-F-(L4)-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] 8' DIRECT LINEAR SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-8-00-L8-835-F-(L4)-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	3267
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
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)	8.00 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	4479	4343	4275
55	4113	3946	3834
65	3501	3444	3331
75	2657	2781	2627
85	1285	1652	1560

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	1329.386	1329.386	1329.386	1329.386	1329.386
5	1335.330	1321.461	1315.517	1311.555	1311.555
10	1311.555	1297.687	1291.743	1287.781	1283.818
15	1265.987	1256.081	1246.175	1242.213	1236.269
20	1212.495	1198.627	1190.702	1178.815	1174.852
25	1143.153	1127.303	1119.379	1105.510	1103.529
30	1073.811	1055.980	1040.131	1036.168	1026.262
35	976.732	964.845	950.977	937.108	937.108
40	885.597	873.710	855.879	851.916	838.048
45	784.556	772.668	760.781	748.894	748.894
50	689.458	673.608	663.702	655.778	645.872
55	584.454	570.586	560.680	550.774	544.830
60	475.488	467.563	461.620	453.695	447.751
65	366.522	364.541	360.579	350.673	348.691
70	271.425	269.443	263.500	259.537	255.575
75	170.383	176.327	178.308	172.364	168.402
80	87.173	91.135	91.135	93.116	95.098
85	27.737	29.718	35.662	31.699	33.680
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	476.94	N.A.	14.60
0-30	993.06	N.A.	30.40
0-40	1589.82	N.A.	48.70
0-60	2681.97	N.A.	82.10
0-80	3224.38	N.A.	98.70
0-90	3266.7	N.A.	100.00
10-90	3141.63	N.A.	96.20
20-40	1112.88	N.A.	34.10
20-50	1701.85	N.A.	52.10
40-70	1448.94	N.A.	44.40
60-80	542.41	N.A.	16.60
70-80	185.61	N.A.	5.70
80-90	42.33	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	3266.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.08
10-20	351.86
20-30	516.12
30-40	596.76
40-50	588.97
50-60	503.18
60-70	356.80
70-80	185.61
80-90	42.33
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	16.8	18.4	17.2	18.7	19.1	16.6	18.2	16.9	18.5	18.8
	3H	18.4	19.8	18.8	20.2	20.5	18.1	19.6	18.5	19.9	20.2
	4H	18.9	20.3	19.3	20.6	21.0	18.6	20.0	19.0	20.4	20.7
	6H	19.2	20.5	19.7	20.8	21.2	19.0	20.3	19.4	20.6	21.0
	8H	19.3	20.5	19.7	20.9	21.3	19.1	20.3	19.5	20.7	21.1
	12H	19.3	20.5	19.8	20.9	21.3	19.2	20.3	19.6	20.7	21.1

UGR Viewed Endwise

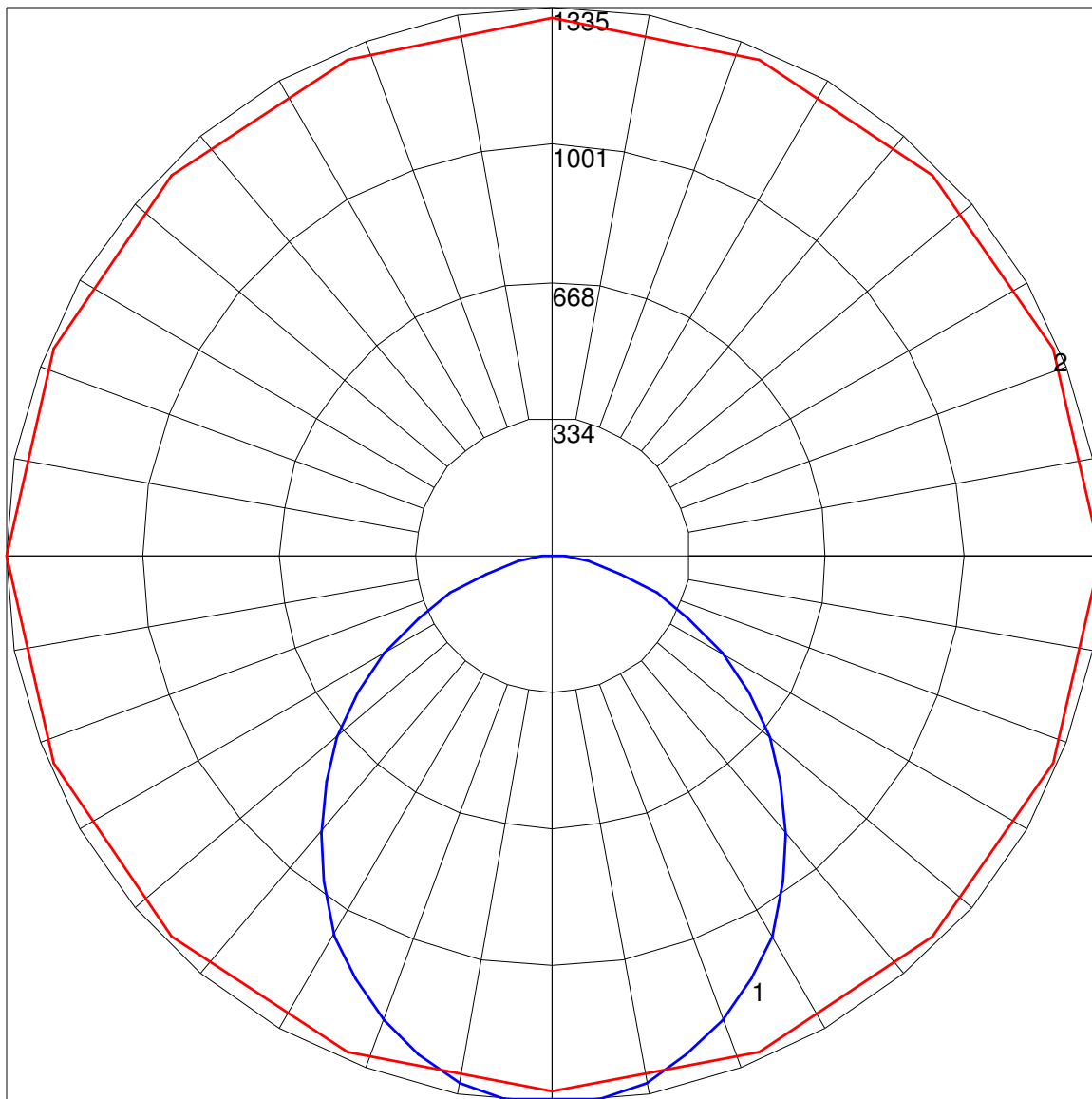
4H	2H	17.4	18.7	17.8	19.1	19.4	17.1	18.5	17.5	18.8	19.2
	3H	19.2	20.3	19.6	20.7	21.1	18.9	20.0	19.3	20.4	20.8
	4H	19.8	20.8	20.2	21.2	21.7	19.6	20.6	20.0	21.0	21.4
	6H	20.2	21.1	20.7	21.5	22.0	20.0	20.9	20.5	21.4	21.8
	8H	20.3	21.1	20.8	21.6	22.0	20.2	21.0	20.6	21.4	21.9
	12H	20.4	21.1	20.8	21.6	22.0	20.2	21.0	20.7	21.5	21.9

8H	4H	20.0	20.9	20.5	21.3	21.8	19.8	20.7	20.3	21.1	21.6
	6H	20.5	21.2	21.0	21.7	22.2	20.4	21.1	20.9	21.6	22.0
	8H	20.7	21.3	21.2	21.8	22.3	20.6	21.2	21.1	21.7	22.2
	12H	20.8	21.3	21.3	21.8	22.4	20.7	21.2	21.2	21.7	22.3

12H	4H	20.0	20.8	20.5	21.3	21.7	19.8	20.6	20.3	21.1	21.5
	6H	20.6	21.2	21.1	21.6	22.2	20.4	21.0	20.9	21.5	22.0
	8H	20.8	21.3	21.3	21.8	22.3	20.6	21.2	21.2	21.7	22.2

Maximum UGR = 22.4

POLAR GRAPH



Maximum Candela = 1335.33 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.)