



IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4D-8-00-L8-935-F-(L6)-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
 [ISSUE DATE] 24 JUNE, 2024
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 8' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-8-L8-935-F-(L6)-DIM-UNV
 [LAMPCAT] HLM 90 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	4260
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	39.11
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)	8.00 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	6144	5867	5648
55	5662	5397	5063
65	5009	4712	4511
75	3854	3697	3668
85	1780	2204	2035

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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	1683.079	1683.079	1683.079	1683.079	1683.079
5	1717.700	1680.416	1669.764	1660.887	1652.010
10	1694.619	1654.673	1642.245	1628.930	1619.165
15	1659.999	1615.614	1592.534	1571.229	1565.015
20	1587.208	1542.823	1530.395	1493.999	1487.785
25	1485.122	1450.502	1438.074	1410.555	1404.341
30	1383.037	1351.967	1335.989	1316.459	1306.694
35	1287.165	1250.769	1225.026	1213.486	1202.834
40	1180.641	1152.235	1114.951	1097.197	1082.994
45	1043.935	1024.406	996.887	980.021	959.604
50	917.882	885.037	879.711	848.641	831.775
55	780.288	760.759	743.893	717.262	697.732
60	653.347	624.941	615.176	591.208	574.342
65	508.652	493.561	478.470	463.379	458.053
70	373.722	360.406	350.642	336.438	342.652
75	239.679	240.567	229.914	229.914	228.139
80	118.064	125.166	121.615	128.717	119.840
85	37.283	44.385	46.160	54.150	42.610
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	608.77	N.A.	14.30
0-30	1270.41	N.A.	29.80
0-40	2042.34	N.A.	47.90
0-60	3477.17	N.A.	81.60
0-80	4201.31	N.A.	98.60
0-90	4260.08	N.A.	100.00
10-90	4101.19	N.A.	96.30
20-40	1433.57	N.A.	33.70
20-50	2205.43	N.A.	51.80
40-70	1910.49	N.A.	44.80
60-80	724.14	N.A.	17.00
70-80	248.48	N.A.	5.80
80-90	58.77	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	4260.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	158.89
10-20	449.89
20-30	661.64
30-40	771.93
40-50	771.86
50-60	662.97
60-70	475.66
70-80	248.48
80-90	58.77
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	124	124	124	124	121	121	121	121	115	115	115	110	110	110	106	106	106	104
1	113	109	104	101	111	106	102	99	102	99	96	98	95	93	94	92	90	88
2	103	95	88	83	101	93	87	82	90	84	80	86	82	78	83	79	76	74
3	95	84	76	69	92	82	75	69	79	73	67	76	71	66	74	69	65	63
4	87	75	66	59	84	73	65	59	71	63	58	68	62	57	66	61	56	54
5	80	67	58	51	78	66	57	51	64	56	50	62	55	50	60	54	49	47
6	74	60	51	45	72	59	51	45	58	50	44	56	49	44	54	48	43	41
7	69	55	46	40	67	54	46	40	52	45	39	51	44	39	50	43	39	37
8	64	50	41	36	62	49	41	35	48	41	35	47	40	35	46	39	35	33
9	60	46	38	32	58	45	37	32	44	37	32	43	36	32	42	36	31	30
10	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27

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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	18.0	19.6	18.4	19.9	20.2	17.5	19.1	17.9	19.4	19.8
	3H	19.6	21.1	20.0	21.4	21.8	19.1	20.6	19.5	20.9	21.3
	4H	20.2	21.5	20.6	21.9	22.3	19.7	21.1	20.1	21.4	21.8
	6H	20.5	21.8	20.9	22.1	22.5	20.1	21.3	20.5	21.7	22.1
	8H	20.6	21.8	21.0	22.2	22.6	20.2	21.4	20.6	21.7	22.1
	12H	20.6	21.7	21.0	22.1	22.6	20.2	21.3	20.6	21.7	22.2

UGR Viewed Endwise

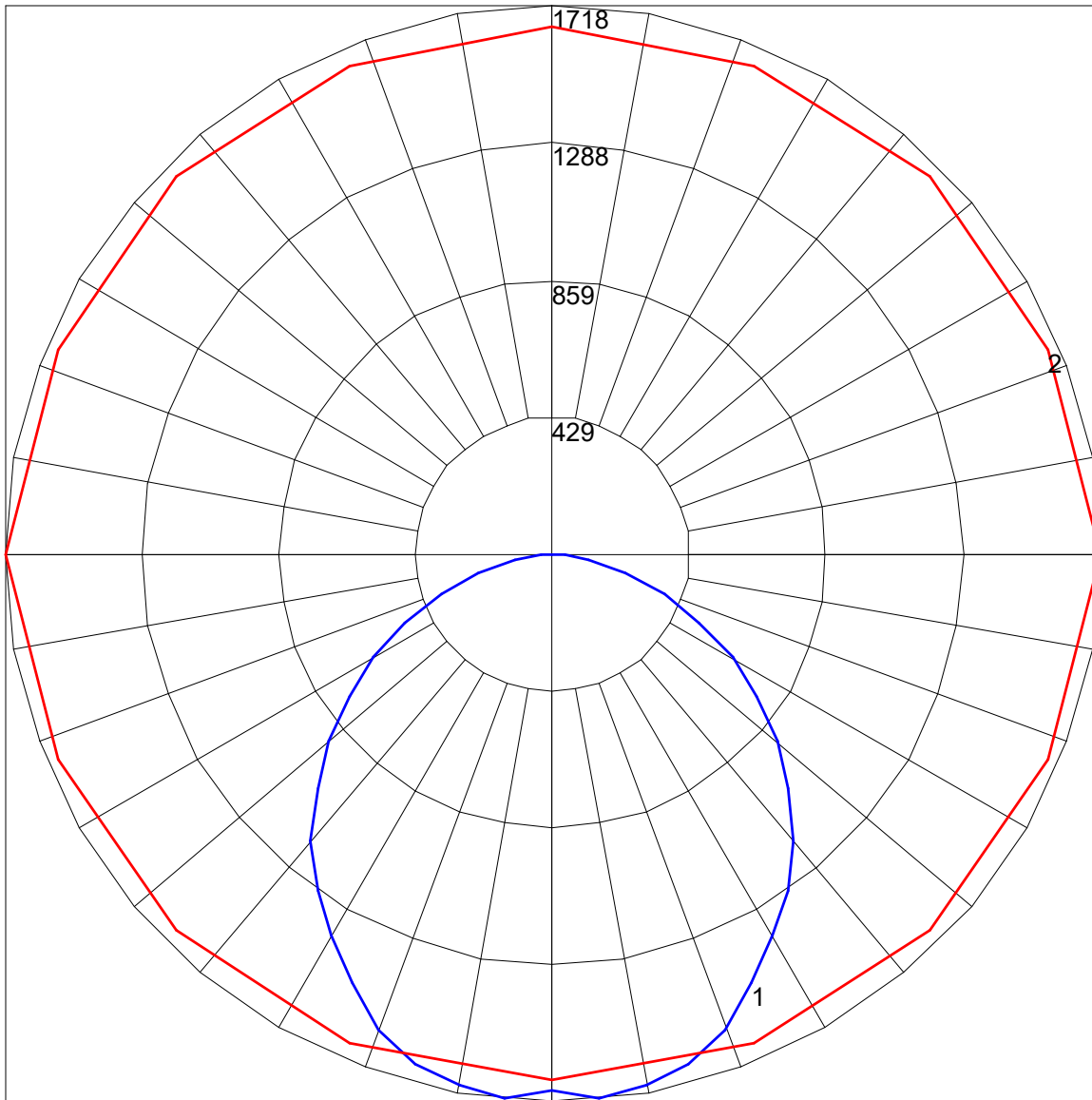
4H	2H	18.5	19.9	18.9	20.2	20.6	18.2	19.5	18.6	19.9	20.2
	3H	20.4	21.5	20.8	21.9	22.3	19.9	21.1	20.4	21.5	21.9
	4H	21.0	22.1	21.5	22.5	22.9	20.6	21.6	21.1	22.1	22.5
	6H	21.5	22.4	21.9	22.8	23.2	21.1	22.0	21.6	22.4	22.9
	8H	21.6	22.4	22.0	22.8	23.3	21.2	22.1	21.7	22.5	23.0
	12H	21.6	22.4	22.1	22.8	23.3	21.3	22.1	21.8	22.5	23.0

8H	4H	21.3	22.1	21.7	22.5	23.0	20.9	21.7	21.4	22.2	22.6
	6H	21.8	22.5	22.3	22.9	23.4	21.5	22.2	22.0	22.6	23.1
	8H	21.9	22.5	22.4	23.1	23.5	21.7	22.3	22.2	22.8	23.3
	12H	22.0	22.6	22.5	23.1	23.6	21.8	22.4	22.3	22.8	23.4

12H	4H	21.3	22.0	21.7	22.5	23.0	20.9	21.7	21.4	22.1	22.6
	6H	21.8	22.4	22.3	22.9	23.4	21.5	22.1	22.0	22.6	23.1
	8H	22.0	22.5	22.5	23.0	23.6	21.7	22.3	22.3	22.8	23.3

Maximum UGR = 23.6

POLAR GRAPH



Maximum Candela = 1717.7 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.)