



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4UD-8-00-L8-935U-L8-935D-A-F-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20659.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 31 MARCH 2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 8' DIRECT/INDIRECT SUSPENDED LUMINAIRE

[MORE] WITH FROSTED ACRYLIC LENS TOP/BTM

[LUMCAT] MX4UD-8-00-L8-935U-L8-935D-A-F-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3500K CCT

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Direct-Indirect

[_SEARCH_MOUNTING] Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11309
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	100
Total Luminaire Watts	113.6
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
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	6982	6828	6656
55	6361	6148	5935
65	5391	5231	5006
75	4087	3983	3983
85	2179	2334	2023

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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	2086.420	2086.420	2086.420	2086.420	2086.420
5	2109.938	2079.700	2069.621	2062.901	2059.542
10	2066.261	2032.663	2025.944	2012.505	2012.505
15	2002.425	1968.828	1955.389	1945.309	1938.590
20	1908.352	1878.114	1864.675	1854.595	1844.516
25	1797.479	1767.241	1757.162	1740.363	1733.643
30	1663.088	1642.930	1632.850	1609.332	1589.173
35	1518.618	1515.258	1498.459	1471.581	1454.782
40	1377.507	1353.989	1350.629	1323.751	1310.312
45	1222.958	1206.159	1196.080	1162.482	1165.842
50	1061.689	1051.609	1041.530	1014.652	1004.572
55	903.779	893.700	873.541	853.383	843.303
60	729.071	725.711	702.193	692.113	682.034
65	564.442	561.082	547.643	537.564	524.125
70	416.612	406.533	389.734	396.453	389.734
75	262.062	255.343	255.343	262.062	255.343
80	131.031	144.470	144.470	144.470	134.391
85	47.037	50.397	50.397	50.397	43.677
90	3.360	3.360	3.360	3.360	3.360
95	77.275	80.635	77.275	67.195	67.195
100	181.428	178.068	178.068	164.629	151.190
105	312.459	312.459	295.660	278.861	255.343
110	490.527	480.448	450.210	436.771	413.252
115	665.235	648.436	628.278	594.680	567.802
120	880.261	880.261	826.504	789.547	769.388
125	1095.286	1112.085	1038.170	1014.652	981.054
130	1327.111	1340.550	1276.714	1239.757	1212.878
135	1538.777	1518.618	1498.459	1481.660	1474.941
140	1737.003	1733.643	1723.564	1700.046	1706.765
145	1908.352	1911.711	1901.632	1884.833	1911.711
150	2066.261	2072.981	2069.621	2046.102	2079.700
155	2187.213	2197.292	2197.292	2180.493	2214.091
160	2281.287	2301.445	2291.366	2281.287	2301.445
165	2358.561	2378.720	2358.561	2358.561	2368.641
170	2402.238	2425.757	2405.598	2402.238	2395.519
175	2435.836	2455.995	2435.836	2432.476	2415.678
180	2442.556	2442.556	2442.556	2442.556	2442.556

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MX4UD-8-00-L8-935U-L8-935D-A-F-DIM-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	748.54	N.A.	6.60
0-30	1557.27	N.A.	13.80
0-40	2490.01	N.A.	22.00
0-60	4188.81	N.A.	37.00
0-80	5011.91	N.A.	44.30
0-90	5078.09	N.A.	44.90
10-90	4881.61	N.A.	43.20
20-40	1741.47	N.A.	15.40
20-50	2660.04	N.A.	23.50
40-70	2243.35	N.A.	19.80
60-80	823.10	N.A.	7.30
70-80	278.55	N.A.	2.50
80-90	66.18	N.A.	0.60
90-110	407.83	N.A.	3.60
90-120	1033.53	N.A.	9.10
90-130	1975.5	N.A.	17.50
90-150	4322.82	N.A.	38.20
90-180	6230.82	N.A.	55.10
110-180	5822.99	N.A.	51.50
0-180	11308.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	196.48
10-20	552.06
20-30	808.73
30-40	932.74
40-50	918.57
50-60	780.23
60-70	544.55
70-80	278.55
80-90	66.18
90-100	88.15
100-110	319.68
110-120	625.70
120-130	941.97
130-140	1158.81
140-150	1188.51
150-160	1009.45
160-170	666.87
170-180	231.68

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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44	38
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	40	39	37	32
3	81	71	64	58	74	66	59	54	55	50	47	45	42	39	36	34	32	27
4	74	63	55	50	67	58	51	46	49	44	40	40	37	34	32	30	27	24
5	68	56	48	42	62	52	45	40	44	38	34	36	32	29	29	26	24	21
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	24	21	19	16
8	54	41	34	29	49	38	32	27	33	27	23	27	23	20	22	19	17	14
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	20	17	15	13
10	47	35	28	23	43	32	26	21	28	22	19	23	19	16	19	16	14	12

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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	14.0	14.8	15.0	15.9	17.2	UGR Viewed Endwise			
	3H	15.5	16.2	16.5	17.3	18.6	13.7	14.5	14.7	15.5
	4H	16.0	16.7	17.0	17.7	19.0	15.2	15.9	16.2	16.9
	6H	16.2	16.9	17.3	17.9	19.3	15.7	16.3	16.7	17.4
	8H	16.3	16.9	17.3	17.9	19.3	15.9	16.6	17.0	17.6
	12H	16.3	16.9	17.3	17.9	19.3	16.0	16.6	17.0	17.7

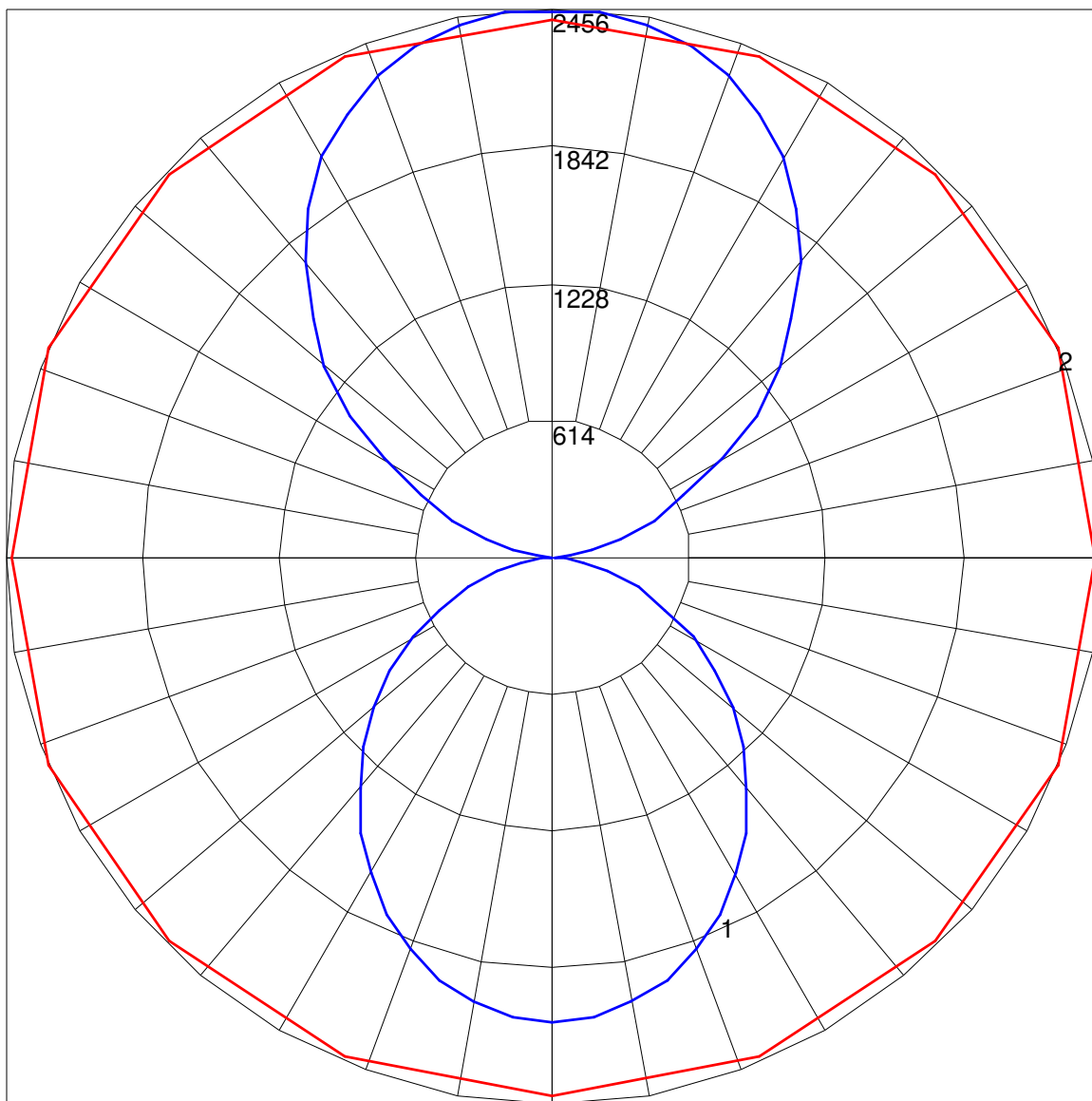
4H	2H	14.5	15.1	15.5	16.2	17.5	13.7	14.5	14.7	15.5
	3H	16.1	16.7	17.2	17.7	19.1	15.2	15.9	16.2	16.9
	4H	16.7	17.2	17.7	18.2	19.7	15.7	16.3	16.7	17.4
	6H	17.0	17.5	18.1	18.6	20.0	15.9	16.6	17.0	17.6
	8H	17.1	17.6	18.2	18.6	20.0	16.0	16.6	17.0	17.7
	12H	17.2	17.5	18.2	18.6	20.0	16.0	16.6	17.1	17.6

8H	4H	16.8	17.3	17.9	18.3	19.7	16.8	17.3	17.9	18.4
	6H	17.3	17.7	18.4	18.8	20.2	16.6	17.0	17.7	18.1
	8H	17.5	17.8	18.5	18.8	20.3	17.1	17.5	18.2	18.6
	12H	17.5	17.8	18.6	18.9	20.4	17.3	17.6	18.4	18.7

12H	4H	16.8	17.2	17.9	18.3	19.7	17.3	17.6	18.4	18.7
	6H	17.3	17.6	18.4	18.7	20.2	16.6	17.0	17.7	18.1
	8H	17.5	17.8	18.6	18.8	20.3	17.1	17.5	18.2	18.5

Maximum UGR = 20.4

POLAR GRAPH



Maximum Candela = 2455.995 Located At Horizontal Angle = 22.5, Vertical Angle = 175
1 - Vertical Plane Through Horizontal Angles (22.5 - 202.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (175) (Through Max. Cd.)