



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L12-835-F-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 29653.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 01-24-2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 4' DIRECT SUSPENDED LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LUMCAT] MX4D-4-00-L12-835-F-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	4700
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	161
Total Luminaire Watts	29.2
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)	4.00 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	13495	13086	12881
55	12393	11889	11553
65	10548	10377	10035
75	8007	8379	7914
85	3871	4977	4700

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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	1912.492	1912.492	1912.492	1912.492	1912.492
5	1921.043	1901.091	1892.541	1886.840	1886.840
10	1886.840	1866.889	1858.338	1852.638	1846.937
15	1821.286	1807.034	1792.783	1787.083	1778.532
20	1744.330	1724.378	1712.977	1695.876	1690.176
25	1644.572	1621.771	1610.370	1590.418	1587.568
30	1544.815	1519.163	1496.361	1490.661	1476.410
35	1405.155	1388.053	1368.102	1348.150	1348.150
40	1274.045	1256.944	1231.292	1225.591	1205.640
45	1128.684	1111.583	1094.481	1077.380	1077.380
50	991.874	969.072	954.821	943.420	929.169
55	840.813	820.861	806.610	792.359	783.808
60	684.051	672.650	664.099	652.699	644.148
65	527.289	524.439	518.739	504.488	501.637
70	390.479	387.629	379.078	373.378	367.677
75	245.118	253.669	256.519	247.968	242.268
80	125.409	131.110	131.110	133.960	136.810
85	39.903	42.753	51.304	45.603	48.454
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	686.14	N.A.	14.60
0-30	1428.65	N.A.	30.40
0-40	2287.16	N.A.	48.70
0-60	3858.35	N.A.	82.10
0-80	4638.68	N.A.	98.70
0-90	4699.57	N.A.	100.00
10-90	4519.63	N.A.	96.20
20-40	1601.02	N.A.	34.10
20-50	2448.33	N.A.	52.10
40-70	2084.49	N.A.	44.40
60-80	780.33	N.A.	16.60
70-80	267.03	N.A.	5.70
80-90	60.89	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	4699.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	179.94
10-20	506.20
20-30	742.51
30-40	858.52
40-50	847.31
50-60	723.88
60-70	513.30
70-80	267.03
80-90	60.89
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

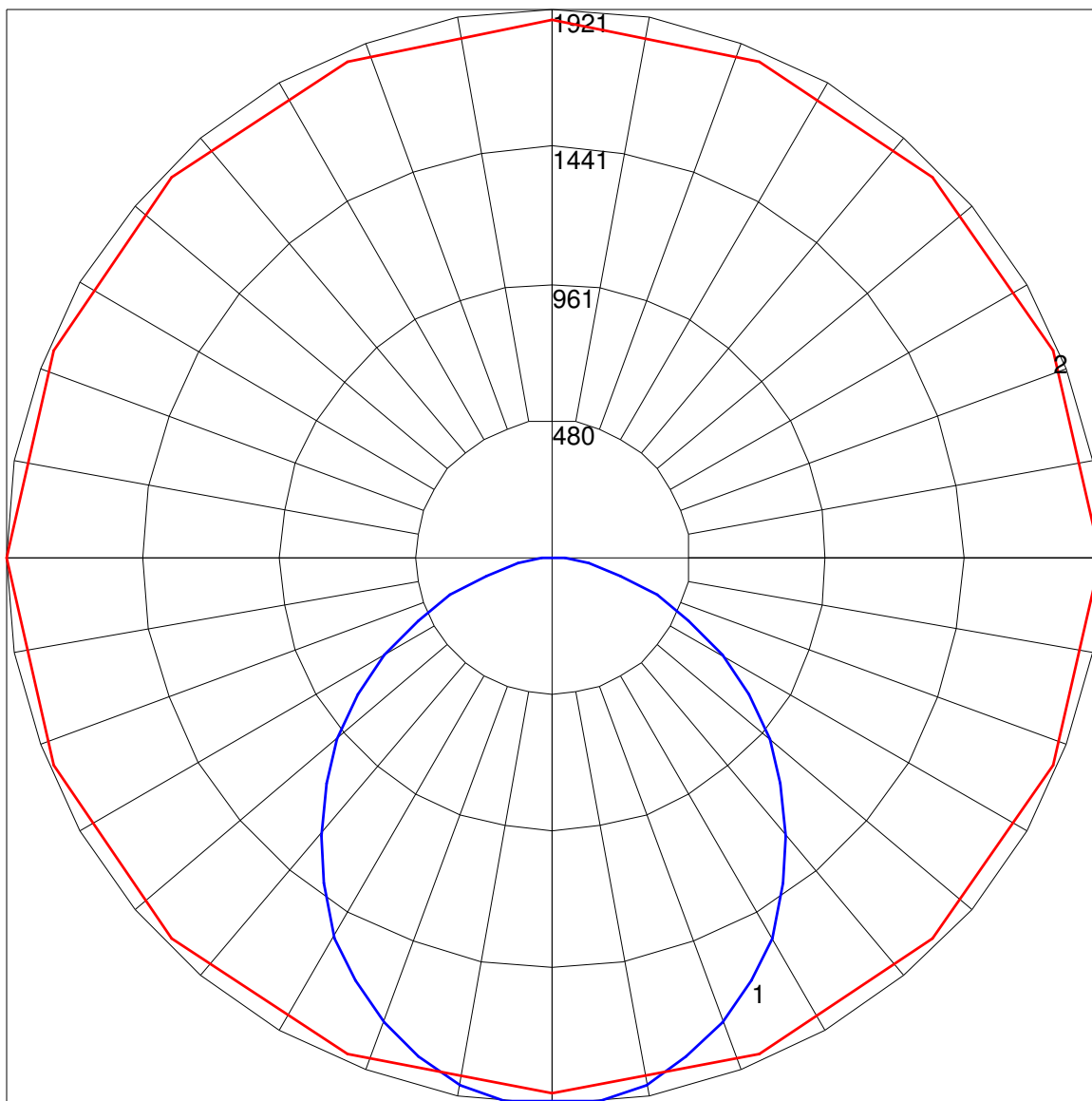
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	20.7	22.3	21.1	22.6	22.9	20.4	22.0	20.8	22.3	22.7
	3H	22.3	23.7	22.7	24.0	24.4	22.0	23.4	22.4	23.7	24.1
	4H	22.8	24.1	23.2	24.5	24.9	22.5	23.9	22.9	24.2	24.6
	6H	23.1	24.4	23.5	24.7	25.1	22.9	24.1	23.3	24.5	24.9
	8H	23.2	24.4	23.6	24.8	25.2	23.0	24.2	23.4	24.6	25.0
	12H	23.2	24.3	23.6	24.7	25.2	23.0	24.2	23.5	24.6	25.0
4H	2H	21.2	22.6	21.6	22.9	23.3	21.0	22.4	21.4	22.7	23.1
	3H	23.0	24.2	23.4	24.6	25.0	22.8	23.9	23.2	24.3	24.7
	4H	23.7	24.7	24.1	25.1	25.5	23.4	24.5	23.9	24.9	25.3
	6H	24.1	25.0	24.5	25.4	25.9	23.9	24.8	24.4	25.2	25.7
	8H	24.2	25.0	24.6	25.4	25.9	24.0	24.9	24.5	25.3	25.8
	12H	24.2	25.0	24.7	25.4	25.9	24.1	24.9	24.6	25.3	25.8
8H	4H	23.9	24.7	24.4	25.2	25.6	23.7	24.5	24.2	25.0	25.4
	6H	24.4	25.1	24.9	25.6	26.0	24.3	24.9	24.7	25.4	25.9
	8H	24.5	25.2	25.0	25.7	26.2	24.4	25.0	24.9	25.6	26.0
	12H	24.6	25.2	25.2	25.7	26.2	24.6	25.1	25.1	25.6	26.2
12H	4H	23.9	24.7	24.4	25.1	25.6	23.7	24.5	24.2	24.9	25.4
	6H	24.4	25.0	24.9	25.5	26.0	24.3	24.9	24.8	25.4	25.9
	8H	24.6	25.2	25.1	25.6	26.2	24.5	25.0	25.0	25.5	26.1

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 1921.043 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.)