



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MSTG-24-L210-950-S-SYM-ASY-DIM-120_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 19832.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 03/09/2023
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2x4' RECESSED SYM/ASYM LED LUMINAIRE
 [MORE] FROST ACRYLIC LED LENSES w/KSH-34 ACRYLIC LENS & CLEAR
 [MORE] ACRYLIC LENS
 [LUMCAT] MSTG-24-L210-950-S-SYM-ASY-DIM-120
 [LAMPCAT] HLM 90 CRI 5000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	17665
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	167
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.88
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.46
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.57 ft
Luminous Width (90-270)	3.57 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	23693	19577	10784
55	14054	15377	7578
65	7453	8020	6035
75	4497	3730	2900
85	1432	587	0

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0	6939.857	6939.857	6939.857	6939.857	6939.857	6939.857	6939.857	6939.857	6939.857
5	7303.313	7277.657	7197.483	7118.378	6995.445	6867.166	6742.095	6578.540	6533.643
10	7595.146	7531.007	7359.969	7156.862	6905.650	6670.473	6500.504	6285.638	6205.464
15	7848.496	7743.735	7489.316	7110.895	6742.095	6439.572	6187.291	5943.562	5817.422
20	8092.224	7936.152	7553.455	6984.755	6488.745	6123.152	5773.594	5505.278	5238.032
25	8322.056	8156.364	7571.628	6788.061	6160.567	5699.834	5281.860	4907.715	4756.988
30	8443.921	8278.228	7598.353	6525.091	5804.594	5218.790	4707.815	4364.670	4329.394
35	8567.923	8318.850	7567.352	6201.188	5337.447	4626.572	4189.356	3779.935	3798.107
40	9012.621	8587.165	7445.488	5879.423	4705.677	3976.628	3603.552	3280.718	3358.754
45	8756.065	8221.572	7234.898	5532.003	3985.180	3252.925	3042.334	2903.366	2925.815
50	6144.532	6444.917	6155.222	4998.579	3113.956	2635.051	2586.946	2321.838	2227.767
55	4212.874	4499.362	4609.468	4198.977	2271.595	2085.592	2195.697	1793.759	1668.687
60	2559.153	2832.813	2896.952	2833.882	1662.273	1633.411	1724.275	1321.267	1236.817
65	1646.239	1802.310	1771.310	1710.378	1333.026	1203.678	1327.681	915.052	908.638
70	1052.951	1068.986	992.019	982.398	872.293	753.635	941.777	640.323	641.392
75	608.253	628.564	504.561	481.044	392.318	360.248	322.834	361.317	342.076
80	259.764	273.660	193.486	161.417	114.382	110.106	80.174	106.899	106.899
85	65.208	59.863	26.725	12.828	0.000	4.276	0.000	3.207	3.207
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2584.37	N.A.	14.60
0-30	5531.33	N.A.	31.30
0-40	9155.85	N.A.	51.80
0-60	15669.02	N.A.	88.70
0-80	17613.86	N.A.	99.70
0-90	17665.04	N.A.	100.00
10-90	17002.47	N.A.	96.20
20-40	6571.48	N.A.	37.20
20-50	10338.28	N.A.	58.50
40-70	7952.02	N.A.	45.00
60-80	1944.84	N.A.	11.00
70-80	505.99	N.A.	2.90
80-90	51.18	N.A.	0.30
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	17665.04	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	662.57
10-20	1921.8
20-30	2946.96
30-40	3624.52
40-50	3766.79
50-60	2746.37
60-70	1438.85
70-80	505.99
80-90	51.18
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	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	94	88	83	99	92	87	82	89	84	80	86	82	79	83	80	77	75
3	93	84	76	71	91	82	75	70	79	73	69	77	72	68	74	70	66	64
4	86	75	67	61	84	73	66	60	71	65	59	69	63	59	67	62	58	56
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	46	41	53	46	40	51	45	40	50	44	40	38
8	63	50	42	37	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	44	38	33	43	37	33	42	37	32	31
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28

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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	21.9	23.4	22.2	23.7	24.0	19.7	21.3	20.1	21.6	21.9
	3H	22.5	23.9	22.9	24.2	24.6	20.5	21.9	20.9	22.2	22.6
	4H	22.7	23.9	23.1	24.3	24.7	20.6	21.9	21.0	22.3	22.7
	6H	22.7	23.9	23.1	24.3	24.7	20.7	21.8	21.1	22.2	22.6
	8H	22.7	23.8	23.2	24.2	24.6	20.6	21.7	21.1	22.1	22.5
	12H	22.7	23.8	23.1	24.2	24.6	20.6	21.7	21.0	22.0	22.5

UGR Viewed Endwise

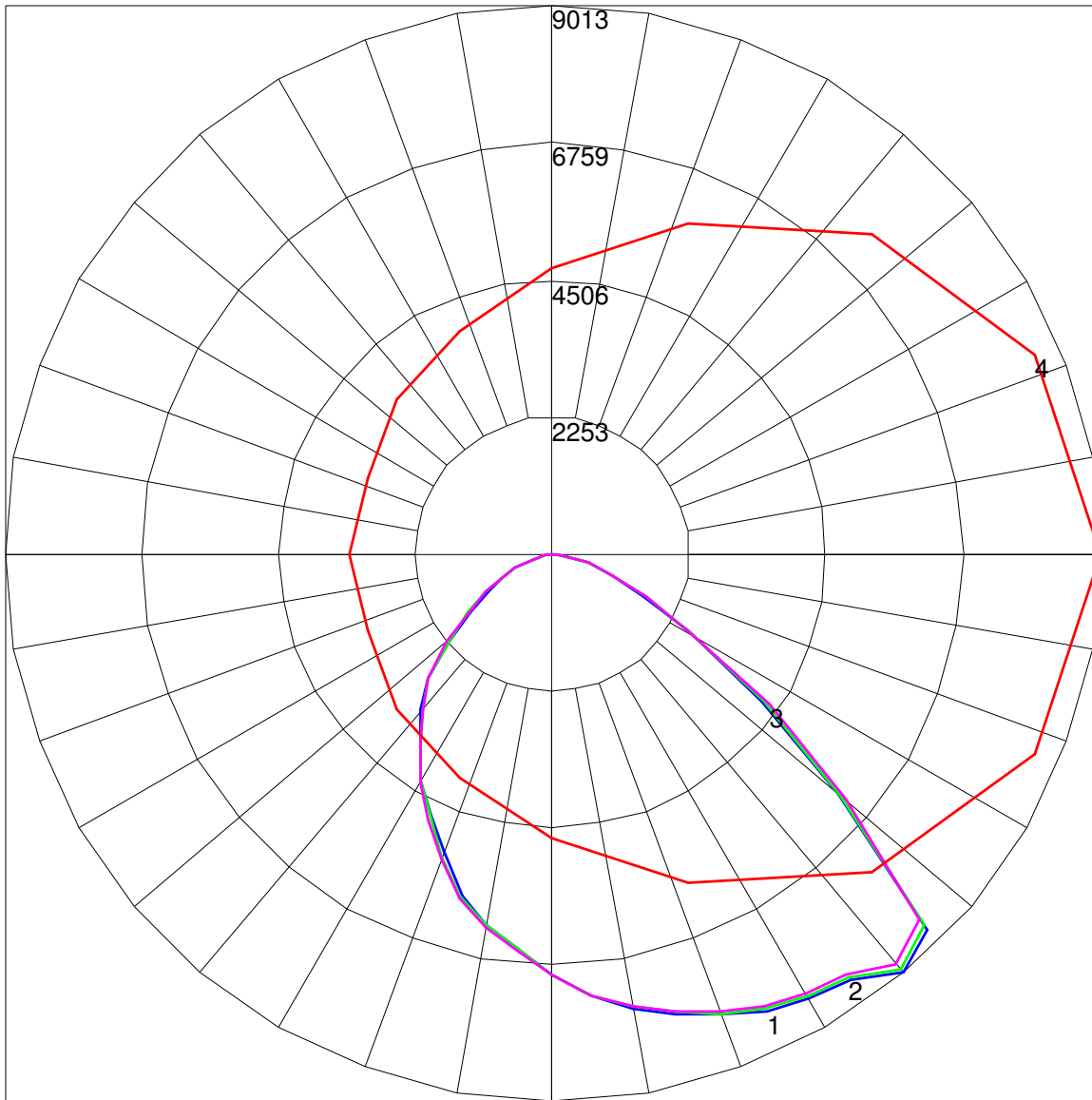
4H	2H	22.1	23.4	22.5	23.7	24.1	20.1	21.4	20.5	21.7	22.1
	3H	22.9	23.9	23.3	24.3	24.7	21.0	22.1	21.4	22.5	22.9
	4H	23.1	24.0	23.5	24.4	24.9	21.2	22.2	21.6	22.6	23.0
	6H	23.2	24.0	23.7	24.5	24.9	21.3	22.1	21.7	22.5	23.0
	8H	23.2	24.0	23.7	24.4	24.9	21.2	22.0	21.7	22.4	22.9
	12H	23.2	23.9	23.7	24.3	24.8	21.2	21.9	21.7	22.3	22.8

8H	4H	23.1	23.9	23.6	24.3	24.8	21.3	22.0	21.7	22.5	22.9
	6H	23.2	23.9	23.7	24.3	24.8	21.3	21.9	21.8	22.4	22.9
	8H	23.3	23.8	23.8	24.3	24.8	21.3	21.8	21.8	22.3	22.8
	12H	23.2	23.7	23.8	24.2	24.8	21.2	21.7	21.7	22.2	22.8

12H	4H	23.1	23.7	23.5	24.2	24.7	21.2	21.9	21.7	22.4	22.8
	6H	23.2	23.8	23.7	24.2	24.8	21.3	21.8	21.8	22.3	22.8
	8H	23.2	23.7	23.7	24.2	24.8	21.2	21.7	21.8	22.2	22.8

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 9012.621 Located At Horizontal Angle = 0, Vertical Angle = 40
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (5 - 185)
3 - Vertical Plane Through Horizontal Angles (10 - 190)
4 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)