



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MSTG-22-L96-940-CS-SSYM-ASY-DIM1-120\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20165.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 11-06-2023

[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 3-42 LED 22" ARRAYS 2x2' RECESSED ASYMMETRIC LUMINAIRE

[MORE] WHITE ASYMMETRIC REFL w/AF12125 LENS IN DOOR

[LUMCAT] MSTG-22-L96-940-CS-SSYM-ASY-DIM-120

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7783
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	74
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.38
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.24
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.57 ft
Luminous Width (90-270)	1.57 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	16869	15367	11870
55	13921	12661	9661
65	10686	9887	7683
75	7005	6315	5151
85	3625	3283	2543

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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>
<b>0</b>	3536.205	3536.205	3536.205	3536.205	3536.205	3536.205	3536.205	3536.205	3536.205
<b>5</b>	3595.579	3575.788	3532.779	3478.353	3425.449	3385.866	3334.865	3300.229	3285.386
<b>10</b>	3654.573	3624.886	3557.519	3463.509	3349.708	3242.377	3141.898	3072.627	3044.463
<b>15</b>	3733.739	3701.007	3616.893	3493.196	3343.238	3183.003	3047.888	2952.356	2917.721
<b>20</b>	3595.579	3536.205	3404.135	3207.742	2973.670	2714.858	2497.152	2350.238	2304.185
<b>25</b>	3501.570	3448.666	3310.125	3105.740	2859.869	2582.788	2355.186	2208.273	2163.742
<b>30</b>	3450.188	3380.918	3226.011	2988.514	2706.485	2378.403	2121.114	1964.304	1916.348
<b>35</b>	3067.680	3001.835	2848.451	2606.005	2322.074	2000.462	1754.971	1613.006	1573.423
<b>40</b>	2914.296	2845.025	2683.268	2427.882	2126.062	1772.860	1528.892	1403.673	1375.508
<b>45</b>	2744.546	2671.850	2500.197	2241.385	1931.192	1558.579	1329.455	1220.602	1202.332
<b>50</b>	2323.977	2269.550	2114.263	1899.982	1626.327	1297.864	1113.271	1020.784	1010.888
<b>55</b>	1837.182	1787.704	1670.858	1495.779	1275.028	1005.940	857.504	793.182	790.137
<b>60</b>	1413.568	1375.508	1299.767	1161.227	999.470	785.189	677.858	636.753	636.753
<b>65</b>	1039.053	1019.261	961.409	862.452	747.128	583.849	503.160	484.891	486.414
<b>70</b>	701.075	686.232	643.223	575.475	509.631	399.255	349.776	344.828	349.776
<b>75</b>	417.144	407.248	376.038	339.881	306.768	237.498	214.281	217.706	224.177
<b>80</b>	216.184	214.281	189.541	176.601	156.809	115.323	108.853	112.279	118.749
<b>85</b>	72.696	72.696	65.845	55.949	51.001	34.635	34.635	41.105	41.105
<b>90</b>	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	1240.62	N.A.	15.90
0-30	2546.55	N.A.	32.70
0-40	4019.57	N.A.	51.60
0-60	6642.29	N.A.	85.30
0-80	7712.77	N.A.	99.10
0-90	7783.08	N.A.	100.00
10-90	7457.05	N.A.	95.80
20-40	2778.95	N.A.	35.70
20-50	4246.14	N.A.	54.60
40-70	3359.88	N.A.	43.20
60-80	1070.48	N.A.	13.80
70-80	333.32	N.A.	4.30
80-90	70.30	N.A.	0.90
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	7783.08	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	326.03
10-20	914.59
20-30	1305.93
30-40	1473.02
40-50	1467.19
50-60	1155.53
60-70	737.16
70-80	333.32
80-90	70.30
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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	75	69	90	81	74	69	78	72	68	76	71	66	73	69	65	63
4	85	74	66	60	83	73	65	59	70	64	58	68	62	58	66	61	57	55
5	79	67	58	52	77	65	58	52	63	56	51	61	55	51	60	54	50	48
6	73	60	52	46	71	59	51	46	58	50	45	56	50	45	54	49	44	42
7	68	55	47	41	66	54	46	41	53	45	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	45	38	33	44	37	33	43	37	33	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

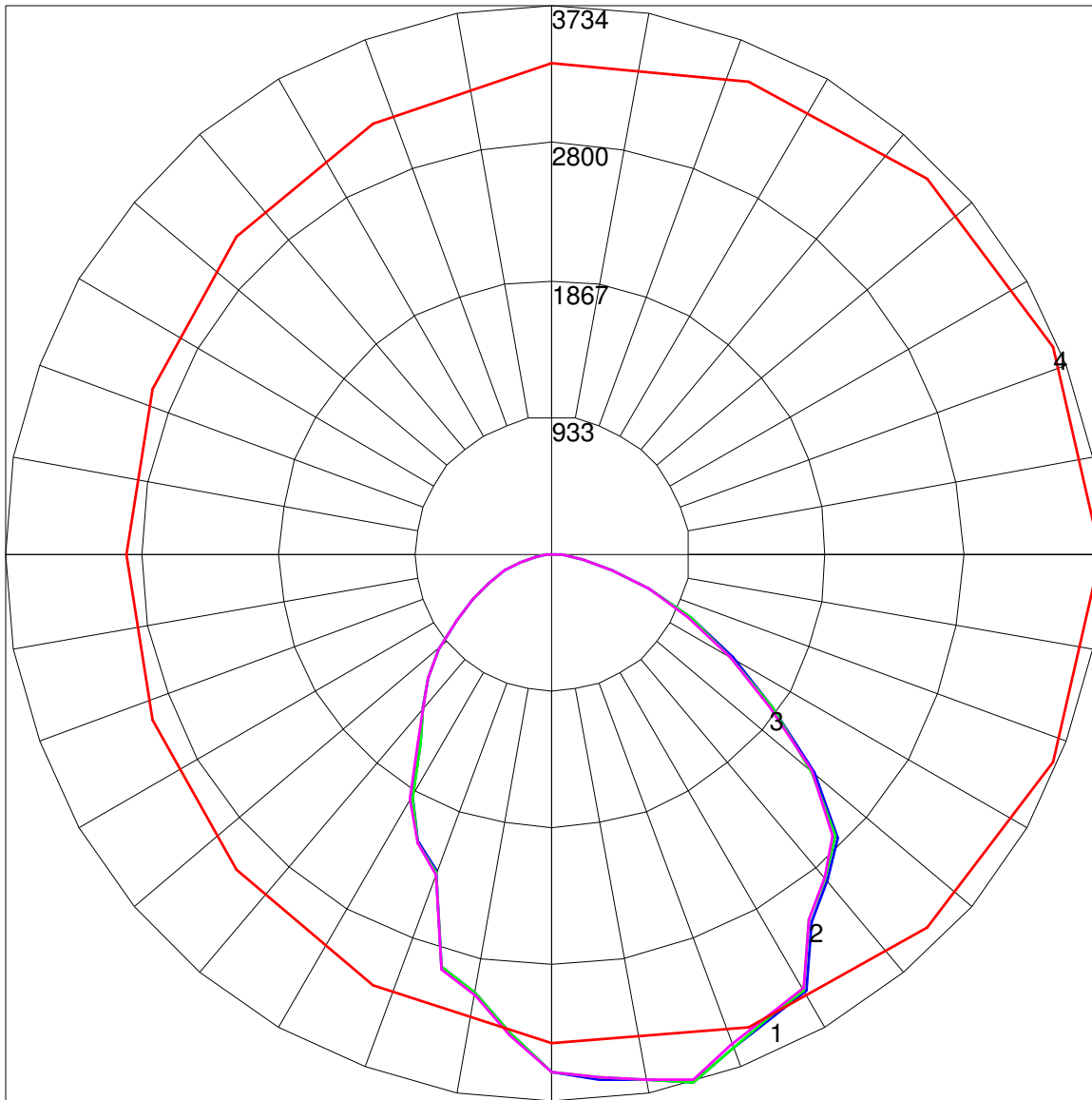
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	21.8	23.4	22.2	23.7	24.0	19.5	21.0	19.8	21.3	21.7
	3H	23.1	24.5	23.5	24.8	25.2	20.8	22.1	21.1	22.5	22.8
	4H	23.4	24.7	23.8	25.1	25.5	21.1	22.4	21.5	22.8	23.1
	6H	23.7	24.9	24.1	25.2	25.6	21.3	22.5	21.7	22.9	23.3
	8H	23.7	24.8	24.1	25.2	25.6	21.4	22.5	21.8	22.9	23.3
	12H	23.7	24.8	24.1	25.2	25.6	21.4	22.5	21.8	22.9	23.3
4H	2H	22.2	23.5	22.6	23.9	24.3	20.0	21.3	20.4	21.7	22.0
	3H	23.7	24.7	24.1	25.1	25.5	21.4	22.5	21.9	22.9	23.3
	4H	24.1	25.1	24.5	25.5	25.9	21.9	22.8	22.3	23.3	23.7
	6H	24.4	25.2	24.9	25.7	26.1	22.2	23.0	22.6	23.5	23.9
	8H	24.5	25.3	24.9	25.7	26.2	22.2	23.0	22.7	23.5	23.9
	12H	24.5	25.2	25.0	25.7	26.2	22.3	23.0	22.7	23.4	23.9
8H	4H	24.2	25.0	24.7	25.4	25.9	22.0	22.8	22.5	23.3	23.7
	6H	24.6	25.2	25.1	25.7	26.2	22.4	23.0	22.9	23.5	24.0
	8H	24.7	25.3	25.2	25.8	26.3	22.5	23.1	23.0	23.6	24.1
	12H	24.8	25.3	25.3	25.8	26.3	22.6	23.1	23.1	23.6	24.1
12H	4H	24.2	24.9	24.7	25.4	25.8	22.0	22.7	22.5	23.2	23.7
	6H	24.6	25.2	25.1	25.6	26.2	22.4	23.0	22.9	23.5	24.0
	8H	24.7	25.2	25.2	25.7	26.3	22.5	23.1	23.0	23.5	24.1

Maximum UGR = 26.3

POLAR GRAPH



Maximum Candela = 3733.739 Located At Horizontal Angle = 0, Vertical Angle = 15  
# 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 (15) (Through Max. Cd.)