



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MSTG-22-L96-840-CS-SASY-DIM-120\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19831.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 18-FEB-2020

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

[LUMINAIRE] 3-42 LED 22" ARRAYS 2x2' RECESSED ASYMM WHITE REFL LUMINAIRE

[MORE] FROST ACRYLIC LED LENSES w/KSH-34 ACRYLIC LENS & CLEAR

[MORE] ACRYLIC LENS

[LUMCAT] MSTG-22-L96-840-CS-SASY-DIM-120

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7517
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	79.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.80
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.40
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	22463	17778	10491
55	13674	13919	7028
65	6407	7112	5485
75	3420	2946	2743
85	1106	302	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>
<b>0</b>	3067.895	3067.895	3067.895	3067.895	3067.895	3067.895	3067.895	3067.895	3067.895
<b>5</b>	3227.187	3207.024	3174.762	3120.320	3068.903	3006.396	2972.118	2923.725	2914.651
<b>10</b>	3343.128	3308.850	3237.269	3133.426	3015.469	2920.700	2857.185	2793.669	2770.481
<b>15</b>	3446.971	3391.521	3270.539	3106.206	2940.864	2805.768	2706.966	2642.442	2612.197
<b>20</b>	3528.633	3448.987	3274.572	3031.600	2835.005	2637.401	2521.461	2422.659	2417.618
<b>25</b>	3616.345	3505.445	3241.302	2920.700	2689.827	2463.994	2309.743	2159.524	2161.540
<b>30</b>	3633.484	3516.535	3200.975	2796.694	2503.313	2281.514	2064.755	1959.904	1962.928
<b>35</b>	3630.460	3472.175	3146.533	2616.230	2285.546	2058.706	1830.857	1710.883	1709.875
<b>40</b>	3766.564	3492.339	2995.306	2404.512	2035.517	1768.349	1565.705	1447.748	1456.822
<b>45</b>	3654.656	3296.752	2892.471	2170.614	1706.850	1457.830	1320.717	1250.144	1276.357
<b>50</b>	2864.242	2838.029	2372.250	1899.413	1292.488	1198.727	1087.827	1050.525	1079.762
<b>55</b>	1804.644	1887.315	1836.906	1688.703	927.526	937.608	920.469	873.085	876.109
<b>60</b>	1086.819	1202.760	1133.195	1144.285	687.579	697.661	740.005	661.367	656.326
<b>65</b>	623.056	714.800	691.612	670.440	533.328	518.205	518.205	449.649	468.804
<b>70</b>	379.076	398.231	378.068	353.872	358.912	322.618	309.512	317.577	334.716
<b>75</b>	203.653	244.988	175.423	160.301	163.325	141.145	169.374	200.628	214.743
<b>80</b>	95.777	97.794	61.499	54.442	41.335	36.295	61.499	79.646	80.654
<b>85</b>	22.180	17.139	6.049	5.041	0.000	0.000	5.041	15.123	11.090
<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	1133.98	N.A.	15.10
0-30	2413.17	N.A.	32.10
0-40	3961.1	N.A.	52.70
0-60	6695.8	N.A.	89.10
0-80	7494.78	N.A.	99.70
0-90	7516.9	N.A.	100.00
10-90	7225.03	N.A.	96.10
20-40	2827.12	N.A.	37.60
20-50	4399.08	N.A.	58.50
40-70	3328.09	N.A.	44.30
60-80	798.98	N.A.	10.60
70-80	205.58	N.A.	2.70
80-90	22.12	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	7516.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	291.87
10-20	842.11
20-30	1279.19
30-40	1547.93
40-50	1571.95
50-60	1162.74
60-70	593.40
70-80	205.58
80-90	22.12
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	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	94	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58	56
5	79	67	59	53	77	66	59	53	64	57	52	62	56	52	61	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	39
8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	54	43	35	30	42	35	30	41	34	30	40	34	30	28

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**UGR TABLE - CORRECTED**

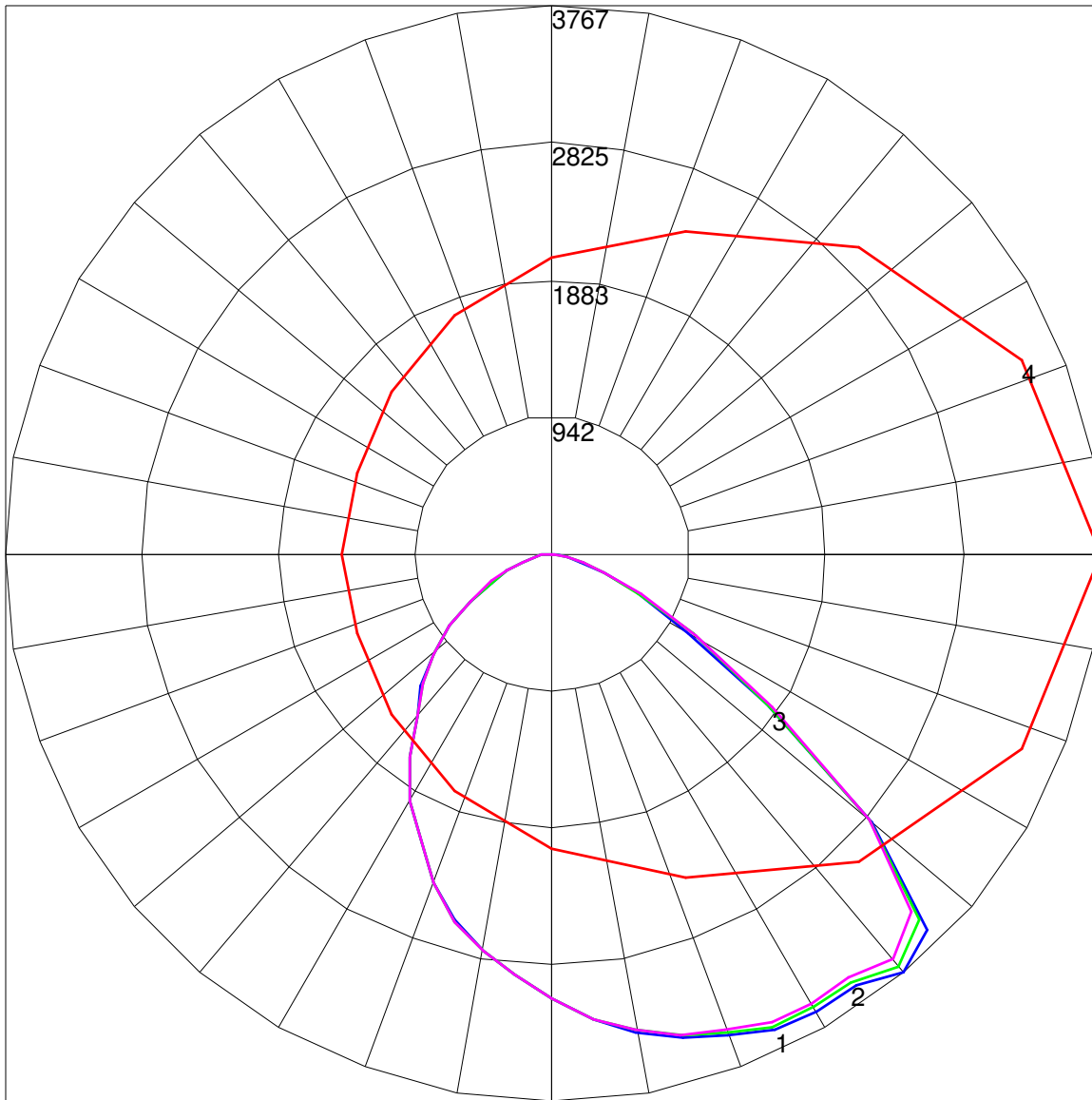
Reflectances

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	21.7	23.2	22.1	23.5	23.8	19.4	20.9	19.7	21.2	21.5
	3H	22.2	23.5	22.6	23.9	24.2	20.1	21.5	20.5	21.8	22.2
	4H	22.3	23.5	22.7	23.9	24.3	20.2	21.5	20.6	21.8	22.2
	6H	22.3	23.5	22.7	23.8	24.2	20.2	21.4	20.6	21.8	22.2
	8H	22.3	23.4	22.7	23.8	24.2	20.2	21.3	20.6	21.7	22.1
	12H	22.3	23.3	22.7	23.7	24.1	20.2	21.2	20.6	21.6	22.0
4H	2H	21.9	23.1	22.3	23.5	23.9	19.7	21.0	20.1	21.3	21.7
	3H	22.5	23.5	22.9	23.9	24.3	20.6	21.6	21.0	22.0	22.4
	4H	22.6	23.6	23.1	24.0	24.4	20.7	21.6	21.1	22.0	22.5
	6H	22.7	23.5	23.2	24.0	24.4	20.7	21.5	21.2	22.0	22.4
	8H	22.7	23.5	23.2	23.9	24.4	20.7	21.4	21.2	21.9	22.4
	12H	22.7	23.4	23.2	23.8	24.3	20.7	21.3	21.1	21.8	22.3
8H	4H	22.6	23.4	23.1	23.8	24.3	20.7	21.5	21.2	21.9	22.4
	6H	22.7	23.3	23.2	23.8	24.3	20.8	21.4	21.3	21.9	22.3
	8H	22.7	23.3	23.2	23.8	24.3	20.7	21.3	21.2	21.8	22.3
	12H	22.7	23.2	23.2	23.7	24.2	20.7	21.2	21.2	21.7	22.2
12H	4H	22.6	23.3	23.1	23.7	24.2	20.7	21.4	21.2	21.9	22.3
	6H	22.7	23.2	23.2	23.7	24.2	20.7	21.3	21.3	21.7	22.3
	8H	22.7	23.2	23.2	23.7	24.2	20.7	21.2	21.2	21.7	22.2

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 3766.564 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.)