



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L40-840-AF-(L20)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN FROM BALLABS TEST NO. 19436.0  
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
[ISSUE DATE] 02-AUG-2023  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] 2x4 RECESSED LED LUMINAIRE  
[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS  
[MORE] 0-10V DIMMING DRIVER  
[LUMCAT] LT-24-L40-840-AF-(L20)-DIM-UNV  
[LAMPCAT] HLMX 80 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2071
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	14.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	873	969	1046
55	742	905	1011
65	631	892	1044
75	472	883	1036
85	321	837	563

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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>
<b>0</b>	761.446	761.446	761.446	761.446	761.446
<b>5</b>	763.351	762.875	762.875	762.398	762.398
<b>10</b>	748.112	746.208	748.112	748.589	748.589
<b>15</b>	727.636	729.064	731.445	733.350	734.779
<b>20</b>	684.778	686.682	691.444	696.206	698.111
<b>25</b>	637.634	639.538	648.586	655.729	659.063
<b>30</b>	591.442	596.680	608.585	620.014	624.776
<b>35</b>	540.012	546.203	564.299	580.013	587.156
<b>40</b>	480.963	490.964	516.202	536.203	544.774
<b>45</b>	430.962	445.724	478.582	506.678	516.679
<b>50</b>	365.723	383.342	422.391	452.868	464.296
<b>55</b>	297.150	317.626	362.389	393.819	404.771
<b>60</b>	237.624	260.482	308.102	340.960	350.484
<b>65</b>	186.195	212.386	263.339	297.626	308.102
<b>70</b>	131.908	159.527	211.910	244.768	251.434
<b>75</b>	85.240	112.384	159.527	182.861	187.147
<b>80</b>	48.573	78.097	114.288	125.717	119.527
<b>85</b>	19.524	40.477	50.954	39.525	34.286
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	277.25	N.A.	13.40
0-30	576.74	N.A.	27.80
0-40	929.09	N.A.	44.90
0-60	1613.52	N.A.	77.90
0-80	2022.27	N.A.	97.60
0-90	2071.12	N.A.	100.00
10-90	1998.86	N.A.	96.50
20-40	651.84	N.A.	31.50
20-50	1015.96	N.A.	49.10
40-70	935.34	N.A.	45.20
60-80	408.75	N.A.	19.70
70-80	157.84	N.A.	7.60
80-90	48.85	N.A.	2.40
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	2071.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	72.26
10-20	204.99
20-30	299.49
30-40	352.35
40-50	364.12
50-60	320.31
60-70	250.91
70-80	157.84
80-90	48.85
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	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	44	37	32	42	36	32	30
9	56	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	26	38	31	26	37	31	26	36	30	26	24

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**UGR TABLE - CORRECTED**

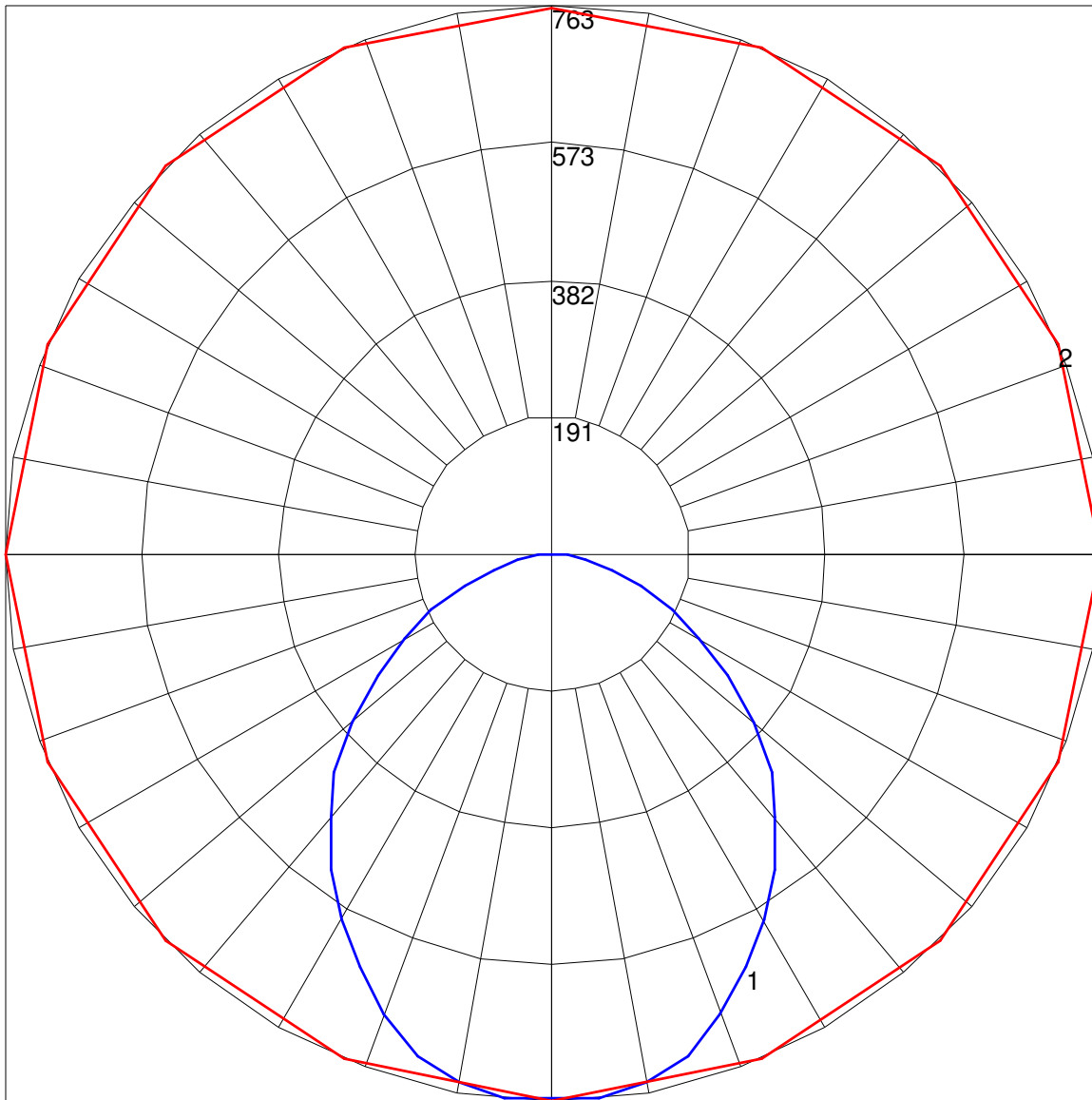
Reflectances

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	10.5	12.2	10.9	12.5	12.8	12.3	14.0	12.7	14.3	14.6
	3H	12.1	13.6	12.5	13.9	14.3	14.6	16.1	15.0	16.4	16.8
	4H	12.6	14.0	13.0	14.4	14.7	15.5	16.9	15.9	17.3	17.6
	6H	13.0	14.3	13.4	14.6	15.0	16.2	17.5	16.6	17.9	18.3
	8H	13.1	14.3	13.5	14.7	15.1	16.4	17.7	16.9	18.1	18.5
	12H	13.2	14.4	13.6	14.7	15.2	16.5	17.7	17.0	18.1	18.5
4H	2H	11.5	13.0	11.9	13.3	13.7	12.9	14.3	13.3	14.7	15.0
	3H	13.3	14.5	13.7	14.9	15.3	15.4	16.6	15.8	17.0	17.4
	4H	14.0	15.1	14.4	15.5	15.9	16.5	17.6	16.9	18.0	18.4
	6H	14.5	15.4	14.9	15.9	16.3	17.4	18.3	17.8	18.8	19.2
	8H	14.7	15.5	15.1	16.0	16.5	17.7	18.6	18.1	19.0	19.5
	12H	14.8	15.6	15.3	16.0	16.5	17.8	18.6	18.3	19.1	19.5
8H	4H	14.7	15.6	15.1	16.0	16.5	16.8	17.7	17.3	18.1	18.6
	6H	15.4	16.1	15.9	16.6	17.1	17.9	18.6	18.4	19.1	19.6
	8H	15.7	16.3	16.2	16.8	17.3	18.2	18.9	18.8	19.4	19.9
	12H	15.9	16.5	16.4	16.9	17.5	18.5	19.0	19.0	19.5	20.1
12H	4H	14.8	15.6	15.3	16.1	16.5	16.8	17.6	17.3	18.1	18.6
	6H	15.6	16.3	16.1	16.7	17.3	18.0	18.6	18.5	19.1	19.6
	8H	16.0	16.6	16.5	17.0	17.6	18.4	19.0	18.9	19.5	20.0

Maximum UGR = 20.1

POLAR GRAPH



Maximum Candela = 763.351 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.)