



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L40-840-D-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19260.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 08-21-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4 RECESSED LED LUMINAIRE

[MORE] FROSTED ACRYLIC CONCAVE LENS IN DOOR

[MORE] SECONDARY CENTER SHIELDING MEDIA

[LUMCAT] AT3-24-L40-840-D-DIM-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

[\_SEARCH\_SOURCETYPE]LED

[\_SEARCH\_APPLICATION]INDOOR,COMMERCIAL,DIRECT,OFFICE,ARCHITECTURAL

[\_SEARCH\_MOUNTING]RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3990
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	34.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1818	2032	2167
55	1549	1795	1910
65	1406	1718	1845
75	1196	1635	1635
85	1060	755	706

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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>	1589.809	1589.809	1589.809	1589.809	1589.809
<b>5</b>	1581.401	1581.961	1581.961	1582.522	1583.083
<b>10</b>	1549.448	1551.129	1555.053	1560.099	1563.462
<b>15</b>	1492.268	1496.192	1505.162	1518.616	1524.782
<b>20</b>	1406.499	1414.908	1436.210	1461.997	1472.648
<b>25</b>	1291.019	1301.671	1333.063	1367.819	1383.515
<b>30</b>	1169.373	1283.732	1212.538	1208.614	1296.625
<b>35</b>	1046.045	1065.105	1119.482	1172.737	1192.918
<b>40</b>	927.763	949.625	1014.653	1066.787	1083.604
<b>45</b>	842.554	869.462	941.777	989.427	1004.562
<b>50</b>	709.136	739.968	807.238	846.478	856.569
<b>55</b>	582.444	614.397	674.940	706.893	718.105
<b>60</b>	473.691	506.766	558.339	587.490	597.019
<b>65</b>	389.604	426.042	475.934	503.402	511.250
<b>70</b>	294.866	333.546	378.953	400.816	404.740
<b>75</b>	202.931	241.611	277.488	280.851	277.488
<b>80</b>	131.176	170.417	167.053	116.040	105.389
<b>85</b>	60.543	69.512	43.165	40.922	40.362
<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	574.59	N.A.	14.40
0-30	1190.6	N.A.	29.80
0-40	1892.3	N.A.	47.40
0-60	3196.05	N.A.	80.10
0-80	3923.31	N.A.	98.30
0-90	3989.99	N.A.	100.00
10-90	3839.81	N.A.	96.20
20-40	1317.71	N.A.	33.00
20-50	2025.56	N.A.	50.80
40-70	1759.6	N.A.	44.10
60-80	727.26	N.A.	18.20
70-80	271.41	N.A.	6.80
80-90	66.67	N.A.	1.70
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	3989.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	150.17
10-20	424.42
20-30	616.01
30-40	701.70
40-50	707.85
50-60	595.90
60-70	455.85
70-80	271.41
80-90	66.67
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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	58	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26

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**UGR TABLE - CORRECTED**

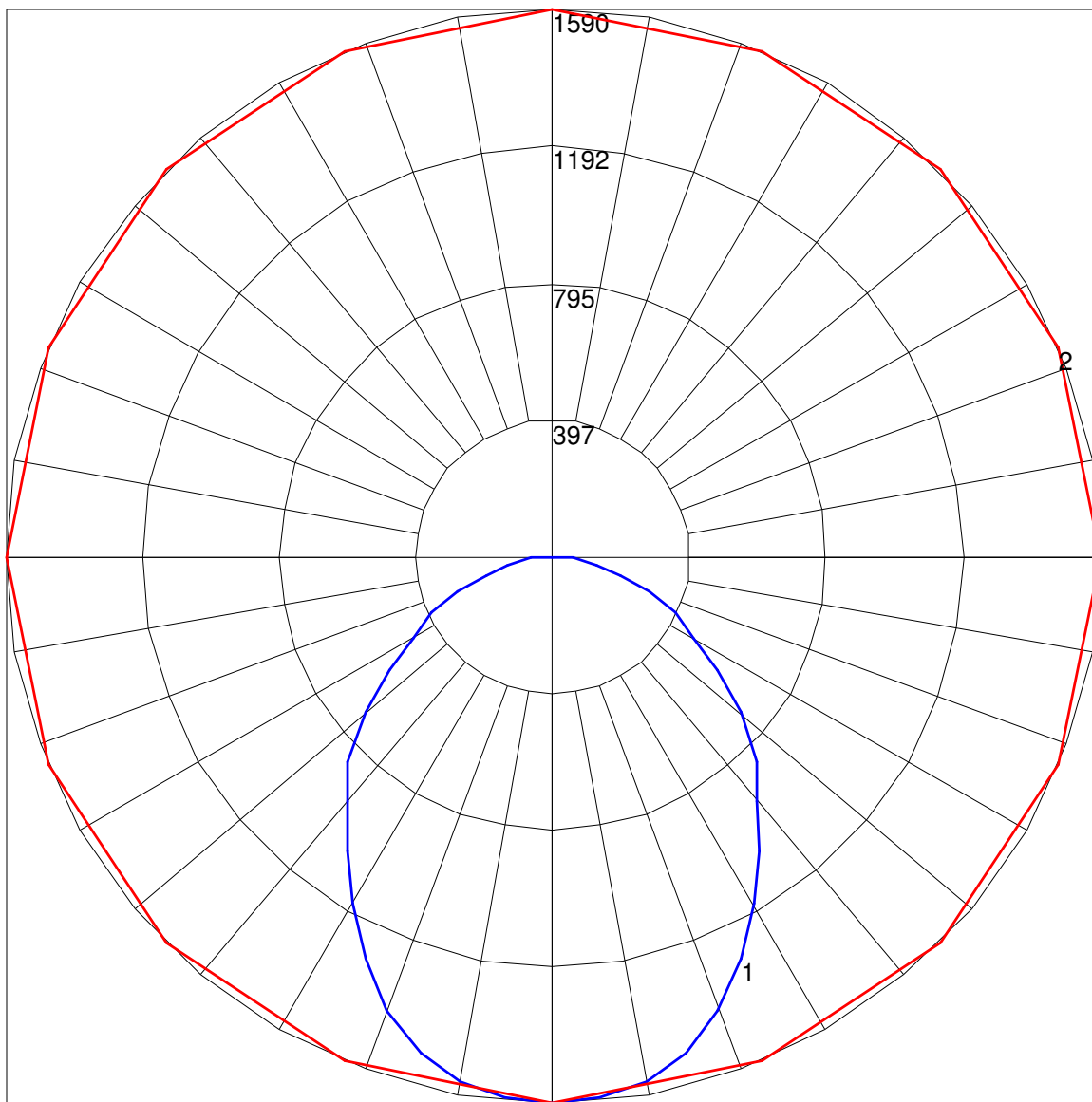
Reflectances

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	13.2	14.8	13.6	15.1	15.4	14.3	15.9	14.6	16.2	16.5
	3H	15.0	16.4	15.3	16.7	17.1	16.3	17.8	16.7	18.1	18.4
	4H	15.6	17.0	16.0	17.3	17.7	17.0	18.4	17.4	18.8	19.1
	6H	16.1	17.4	16.5	17.8	18.2	17.4	18.6	17.8	19.0	19.4
	8H	16.3	17.5	16.8	17.9	18.3	17.4	18.6	17.8	19.0	19.4
	12H	16.5	17.6	16.9	18.0	18.4	17.5	18.6	17.9	19.0	19.4
4H	2H	14.0	15.4	14.4	15.8	16.1	14.9	16.2	15.3	16.6	17.0
	3H	16.1	17.2	16.5	17.6	18.0	17.1	18.3	17.6	18.7	19.1
	4H	16.9	17.9	17.3	18.3	18.7	18.0	19.1	18.5	19.5	19.9
	6H	17.5	18.5	18.0	18.9	19.3	18.4	19.3	18.9	19.8	20.2
	8H	17.8	18.6	18.2	19.1	19.5	18.5	19.4	19.0	19.8	20.3
	12H	17.9	18.7	18.4	19.2	19.7	18.6	19.3	19.0	19.8	20.3
8H	4H	17.3	18.2	17.8	18.6	19.1	18.3	19.2	18.8	19.6	20.1
	6H	18.2	18.9	18.7	19.4	19.9	18.8	19.5	19.3	20.0	20.5
	8H	18.5	19.1	19.0	19.7	20.1	18.9	19.6	19.4	20.1	20.6
	12H	18.8	19.3	19.3	19.8	20.4	19.0	19.6	19.5	20.1	20.6
12H	4H	17.4	18.1	17.8	18.6	19.1	18.4	19.1	18.8	19.6	20.1
	6H	18.3	18.9	18.8	19.4	19.9	18.9	19.5	19.4	20.0	20.5
	8H	18.6	19.2	19.1	19.7	20.3	19.0	19.6	19.6	20.1	20.7

Maximum UGR = 20.7

POLAR GRAPH



Maximum Candela = 1589.809 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)