



## IES INDOOR REPORT

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

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20802.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 01-15-2024  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2x4' RECESSED LED LUMINAIRE  
 [LUMINAIRE] WHITE REFLECTOR w/FROSTED CENTER LENS  
 [LUMINAIRE] 0-10V DIMMING DRIVER  
 [LUMCAT] LT-24-L40-840-DIM-UNV  
 [LAMPCAT] 22 INCH LED ARRAYS  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Classroom, Office, Direct  
 [\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4091
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	32
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.93 ft
Luminous Width (90-270)	1.91 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1690	1878	2021
55	1538	1823	2038
65	1313	1811	2133
75	968	1902	2386
85	371	1527	1404

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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>	1421.120	1421.120	1421.120	1421.120	1421.120
<b>5</b>	1434.745	1417.714	1408.857	1405.451	1405.451
<b>10</b>	1408.176	1390.463	1385.694	1386.375	1384.332
<b>15</b>	1365.938	1353.675	1351.631	1356.400	1359.125
<b>20</b>	1310.755	1299.855	1304.624	1317.568	1320.293
<b>25</b>	1238.541	1229.003	1246.035	1264.429	1268.517
<b>30</b>	1155.426	1153.383	1176.546	1201.071	1210.609
<b>35</b>	1058.005	1066.181	1100.244	1131.582	1143.164
<b>40</b>	955.134	970.122	1022.580	1058.687	1072.312
<b>45</b>	831.825	857.713	924.477	984.429	994.648
<b>50</b>	728.954	760.974	826.375	884.964	901.996
<b>55</b>	613.820	645.840	727.592	790.268	813.431
<b>60</b>	500.730	536.156	623.358	698.978	720.779
<b>65</b>	386.278	435.329	532.750	606.326	627.446
<b>70</b>	279.319	334.501	435.329	513.674	530.706
<b>75</b>	174.404	241.849	342.677	412.847	429.879
<b>80</b>	83.796	156.691	248.662	281.363	271.825
<b>85</b>	22.482	77.664	92.652	82.433	85.158
<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	516.69	N.A.	12.60
0-30	1092.05	N.A.	26.70
0-40	1780.55	N.A.	43.50
0-60	3135.12	N.A.	76.60
0-80	3990.33	N.A.	97.50
0-90	4090.87	N.A.	100.00
10-90	3956.73	N.A.	96.70
20-40	1263.86	N.A.	30.90
20-50	1974.35	N.A.	48.30
40-70	1869.77	N.A.	45.70
60-80	855.21	N.A.	20.90
70-80	340.02	N.A.	8.30
80-90	100.54	N.A.	2.50
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	4090.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	134.14
10-20	382.55
20-30	575.36
30-40	688.50
40-50	710.49
50-60	644.09
60-70	515.19
70-80	340.02
80-90	100.54
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	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	82	77	95	88	81	76	84	79	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	62	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

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**UGR TABLE - CORRECTED**

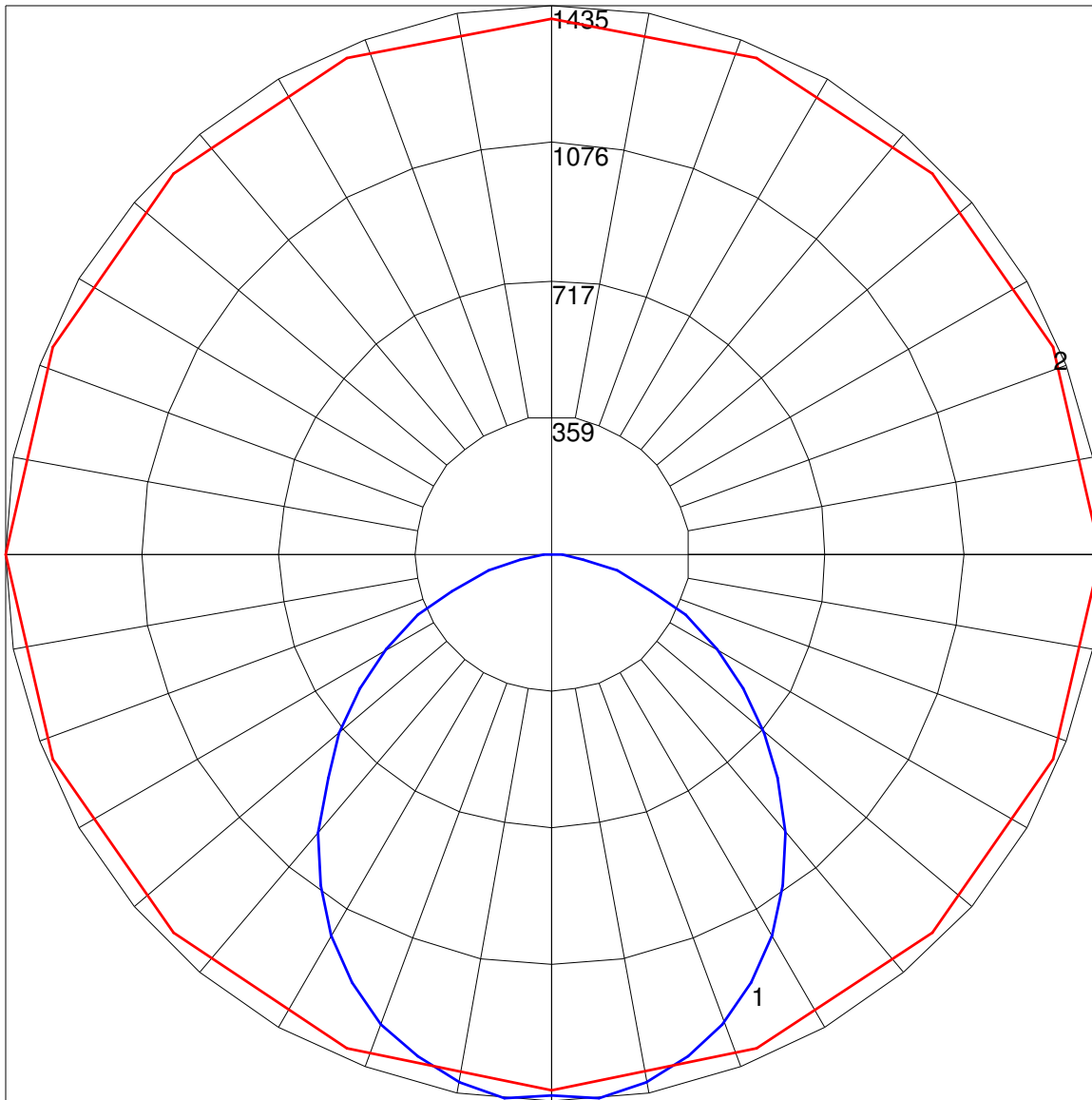
Reflectances

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	13.2	14.9	13.6	15.2	15.5	14.9	16.6	15.3	16.9	17.2
	3H	14.8	16.3	15.2	16.6	17.0	17.3	18.8	17.7	19.1	19.5
	4H	15.3	16.7	15.7	17.1	17.5	18.3	19.8	18.7	20.1	20.5
	6H	15.6	17.0	16.0	17.3	17.7	19.2	20.5	19.6	20.9	21.3
	8H	15.7	17.0	16.1	17.4	17.8	19.4	20.7	19.8	21.1	21.5
	12H	15.7	17.0	16.2	17.3	17.8	19.5	20.8	20.0	21.1	21.6
4H	2H	14.2	15.6	14.6	15.9	16.3	15.5	16.9	15.9	17.3	17.6
	3H	16.0	17.2	16.4	17.6	18.0	18.1	19.3	18.5	19.7	20.1
	4H	16.7	17.8	17.1	18.2	18.7	19.4	20.5	19.8	20.9	21.3
	6H	17.2	18.1	17.6	18.6	19.0	20.4	21.4	20.9	21.8	22.2
	8H	17.3	18.2	17.8	18.6	19.1	20.7	21.6	21.2	22.0	22.5
	12H	17.4	18.2	17.8	18.6	19.1	20.9	21.7	21.3	22.1	22.6
8H	4H	17.5	18.4	17.9	18.8	19.3	19.7	20.6	20.2	21.0	21.5
	6H	18.1	18.9	18.6	19.4	19.8	20.9	21.6	21.4	22.1	22.6
	8H	18.4	19.0	18.9	19.5	20.0	21.3	22.0	21.8	22.5	23.0
	12H	18.5	19.1	19.0	19.6	20.1	21.5	22.1	22.0	22.6	23.2
12H	4H	17.6	18.4	18.1	18.9	19.4	19.7	20.5	20.2	21.0	21.5
	6H	18.4	19.1	18.9	19.5	20.1	21.0	21.6	21.5	22.1	22.6
	8H	18.7	19.3	19.2	19.8	20.3	21.4	22.0	21.9	22.5	23.1

Maximum UGR = 23.2

POLAR GRAPH



Maximum Candela = 1434.745 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.)