



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L40-840-AF-EM-10W-(L20)-DIM-UNV_EM MODE ONLY.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] 03-AUG-2023

[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-AF-EM-10W-(L20)-DIM-UNV EM MODE ONLY

[LAMPCAT] HLMX 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1399
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	10
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	578	642	691
55	526	623	697
65	449	619	729
75	331	651	816
85	127	522	480

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	485.975	485.975	485.975	485.975	485.975
5	490.635	484.811	481.782	480.617	480.617
10	481.549	475.492	473.861	474.094	473.395
15	467.105	462.911	462.212	463.843	464.775
20	448.234	444.507	446.138	450.564	451.496
25	423.539	420.278	426.102	432.392	433.790
30	395.117	394.418	402.339	410.726	413.988
35	361.802	364.598	376.247	386.963	390.924
40	326.624	331.749	349.688	362.035	366.695
45	284.456	293.309	316.140	336.642	340.136
50	249.278	260.227	282.593	302.628	308.452
55	209.906	220.856	248.812	270.245	278.166
60	171.233	183.347	213.168	239.027	246.482
65	132.094	148.868	182.183	207.343	214.565
70	95.518	114.388	148.868	175.659	181.484
75	59.640	82.704	117.184	141.180	147.004
80	28.655	53.583	85.034	96.217	92.955
85	7.688	26.559	31.684	28.189	29.121
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	176.69	N.A.	12.60
0-30	373.44	N.A.	26.70
0-40	608.89	N.A.	43.50
0-60	1072.11	N.A.	76.60
0-80	1364.56	N.A.	97.50
0-90	1398.94	N.A.	100.00
10-90	1353.07	N.A.	96.70
20-40	432.20	N.A.	30.90
20-50	675.16	N.A.	48.30
40-70	639.40	N.A.	45.70
60-80	292.45	N.A.	20.90
70-80	116.27	N.A.	8.30
80-90	34.38	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	1398.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	45.87
10-20	130.82
20-30	196.75
30-40	235.44
40-50	242.96
50-60	220.26
60-70	176.18
70-80	116.27
80-90	34.38
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

X=2H	Y=2H	9.5	11.2	9.9	11.5	11.8	11.2	12.9	11.6	13.2	13.5
	3H	11.1	12.6	11.5	12.9	13.3	13.6	15.1	14.0	15.4	15.8
	4H	11.6	13.0	12.0	13.4	13.8	14.6	16.1	15.0	16.4	16.8
	6H	11.9	13.3	12.3	13.6	14.0	15.5	16.8	15.9	17.2	17.5
	8H	12.0	13.3	12.4	13.7	14.1	15.7	17.0	16.1	17.4	17.8
	12H	12.0	13.2	12.5	13.6	14.1	15.8	17.1	16.3	17.4	17.9

UGR Viewed Endwise

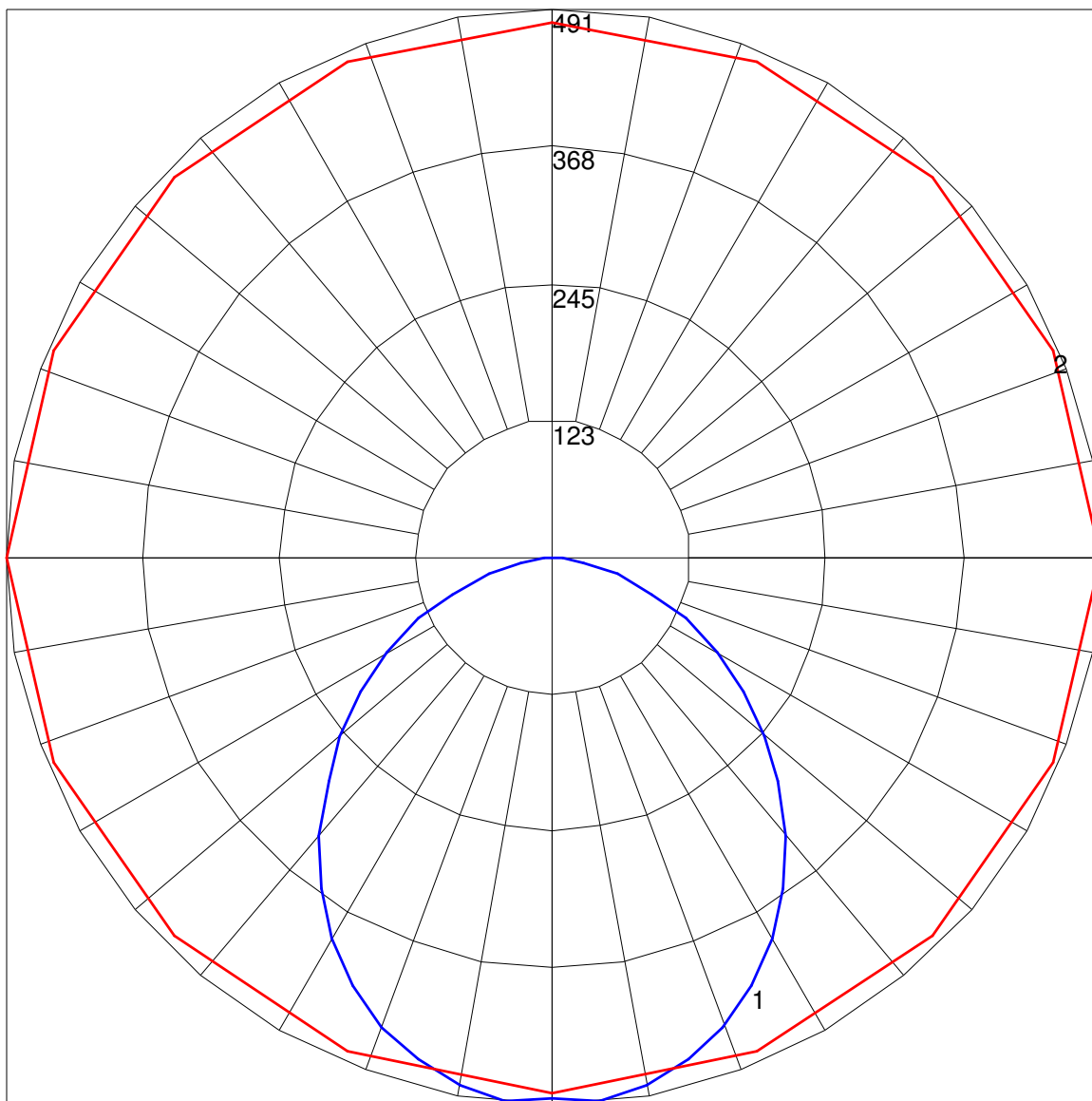
4H	2H	10.5	11.9	10.9	12.2	12.6	11.8	13.2	12.2	13.6	13.9
	3H	12.3	13.5	12.7	13.9	14.3	14.4	15.6	14.8	16.0	16.4
	4H	13.0	14.1	13.4	14.5	14.9	15.7	16.8	16.1	17.2	17.6
	6H	13.5	14.4	13.9	14.9	15.3	16.7	17.7	17.2	18.1	18.5
	8H	13.6	14.5	14.1	14.9	15.4	17.0	17.9	17.5	18.3	18.8
	12H	13.7	14.5	14.1	14.9	15.4	17.2	18.0	17.6	18.4	18.9
8H	4H	13.8	14.7	14.2	15.1	15.6	16.0	16.9	16.5	17.3	17.8
	6H	14.4	15.2	14.9	15.7	16.1	17.2	17.9	17.7	18.4	18.9
	8H	14.7	15.3	15.2	15.8	16.3	17.6	18.3	18.1	18.8	19.3
	12H	14.8	15.4	15.3	15.9	16.4	17.8	18.4	18.3	18.9	19.5
12H	4H	13.9	14.7	14.4	15.2	15.7	16.0	16.8	16.5	17.3	17.8
	6H	14.7	15.4	15.2	15.8	16.4	17.3	17.9	17.8	18.4	18.9
	8H	15.0	15.6	15.5	16.1	16.6	17.7	18.3	18.2	18.8	19.4

Maximum UGR = 19.5

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POLAR GRAPH



Maximum Candela = 490.635 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.)