



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L52-840-AF-EM-10W-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-L52-840-AF-EM-10W-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	1440
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
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	595	661	711
55	541	642	717
65	462	638	751
75	341	670	840
85	130	538	494

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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	500.223	500.223	500.223	500.223	500.223
5	505.019	499.024	495.907	494.708	494.708
10	495.667	489.432	487.754	487.993	487.274
15	480.799	476.483	475.764	477.442	478.401
20	461.376	457.539	459.217	463.774	464.733
25	435.957	432.600	438.595	445.069	446.508
30	406.701	405.982	414.135	422.768	426.125
35	372.410	375.287	387.277	398.308	402.385
40	336.200	341.475	359.940	372.650	377.446
45	292.796	301.908	325.409	346.511	350.108
50	256.586	267.857	290.878	311.500	317.495
55	216.060	227.331	256.107	278.168	286.321
60	176.253	188.723	219.417	246.035	253.709
65	135.967	153.232	187.524	213.422	220.856
70	98.318	117.742	153.232	180.809	186.804
75	61.389	85.129	120.620	145.319	151.314
80	29.495	55.154	87.527	99.037	95.680
85	7.913	27.337	32.613	29.016	29.975
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	181.87	N.A.	12.60
0-30	384.39	N.A.	26.70
0-40	626.74	N.A.	43.50
0-60	1103.54	N.A.	76.60
0-80	1404.57	N.A.	97.50
0-90	1439.95	N.A.	100.00
10-90	1392.74	N.A.	96.70
20-40	444.87	N.A.	30.90
20-50	694.95	N.A.	48.30
40-70	658.14	N.A.	45.70
60-80	301.03	N.A.	20.90
70-80	119.68	N.A.	8.30
80-90	35.39	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	1439.95	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	47.22
10-20	134.65
20-30	202.52
30-40	242.35
40-50	250.09
50-60	226.71
60-70	181.34
70-80	119.68
80-90	35.39
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	9.6	11.3	10.0	11.6	11.9	11.3	13.0	11.7	13.3	13.6
	3H	11.2	12.7	11.6	13.0	13.4	13.7	15.2	14.1	15.5	15.9
	4H	11.7	13.1	12.1	13.5	13.9	14.7	16.2	15.1	16.5	16.9
	6H	12.0	13.4	12.4	13.7	14.1	15.6	16.9	16.0	17.3	17.6
	8H	12.1	13.4	12.5	13.8	14.2	15.8	17.1	16.2	17.5	17.9
	12H	12.1	13.3	12.6	13.7	14.2	15.9	17.2	16.4	17.5	18.0

UGR Viewed Endwise

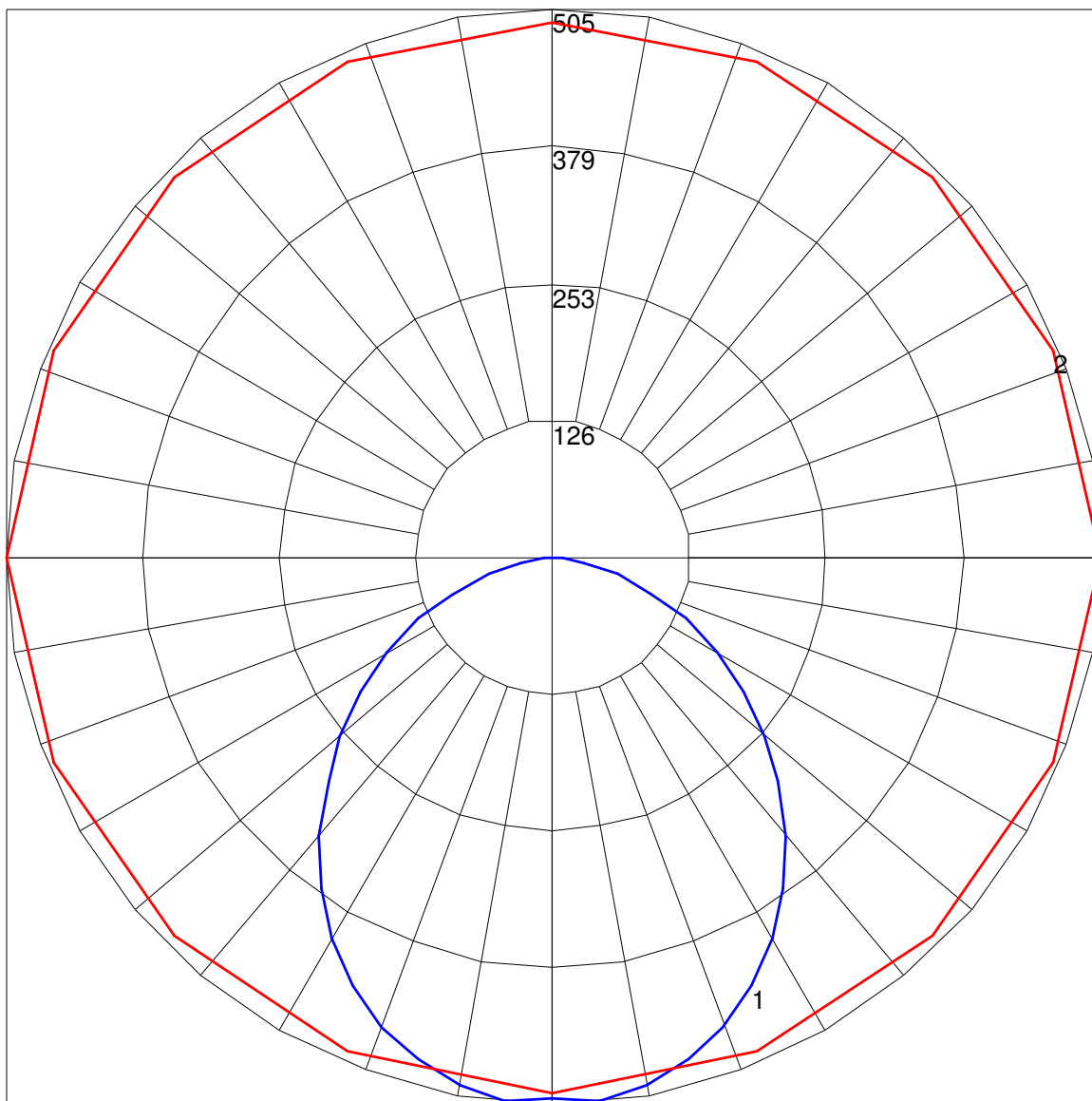
4H	2H	10.6	12.0	11.0	12.3	12.7	11.9	13.3	12.3	13.7	14.0
	3H	12.4	13.6	12.8	14.0	14.4	14.5	15.7	14.9	16.1	16.5
	4H	13.1	14.2	13.5	14.6	15.0	15.8	16.9	16.2	17.3	17.7
	6H	13.6	14.5	14.0	15.0	15.4	16.8	17.8	17.3	18.2	18.6
	8H	13.7	14.6	14.2	15.0	15.5	17.1	18.0	17.6	18.4	18.9
	12H	13.8	14.6	14.2	15.0	15.5	17.3	18.1	17.7	18.5	19.0
8H	4H	13.9	14.8	14.3	15.2	15.7	16.1	17.0	16.6	17.4	17.9
	6H	14.5	15.3	15.0	15.8	16.2	17.3	18.0	17.8	18.5	19.0
	8H	14.8	15.4	15.3	15.9	16.4	17.7	18.4	18.2	18.9	19.4
	12H	14.9	15.5	15.4	16.0	16.5	17.9	18.5	18.4	19.0	19.6
12H	4H	14.0	14.8	14.5	15.3	15.8	16.1	16.9	16.6	17.4	17.9
	6H	14.8	15.5	15.3	15.9	16.5	17.4	18.0	17.9	18.5	19.0
	8H	15.1	15.7	15.6	16.2	16.7	17.8	18.4	18.3	18.9	19.5

Maximum UGR = 19.6

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POLAR GRAPH



Maximum Candela = 505.019 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.)