



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-835-HIAFR-(L25)-EM10W-DIM-UNV (EM MODE).IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 19227.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 05-20-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836  
 [LUMINAIRE] 2-44LED 22"ARRAYS 4' ENCLOSED & GASKETED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LINEAR RIBBED DIFFUSER  
 [MORE] ADVANCE DRIVER #XI054C150V054SNT1 8.1K RESISTOR  
 [LUMCAT] 96-4-L40-835-HIAFR-(L25)-EM10W-DIM-UNV(EM MODE)  
 [LAMPCAT] HLM 80 CRI 3500K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1388
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	10
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.23 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.18 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2092	1649	1606
55	1780	1403	1386
65	1304	1140	1231
75	800	961	1061
85	295	755	905

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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>
0	490.348	490.348	490.348	490.348	490.348
5	494.648	488.312	485.144	482.881	482.202
10	488.086	480.166	475.188	473.377	471.567
15	475.866	466.815	459.348	455.049	452.560
20	458.217	448.939	437.851	428.800	428.574
25	437.399	427.443	411.150	399.610	395.990
30	411.150	398.479	376.530	373.135	373.588
35	378.792	365.894	345.077	355.259	360.690
40	341.909	330.142	319.960	331.274	335.799
45	302.989	291.901	293.485	295.974	302.310
50	259.317	248.681	258.185	262.485	266.558
55	212.703	207.272	221.528	230.127	235.331
60	165.184	170.841	184.192	199.352	206.820
65	118.118	134.863	151.607	173.557	179.892
70	80.782	99.111	125.359	148.213	152.060
75	47.066	69.015	100.016	121.286	125.359
80	22.175	45.935	74.899	95.264	99.111
85	7.467	29.190	54.307	74.220	78.293
90	3.168	17.650	39.599	55.665	59.738
95	2.489	12.219	31.679	43.898	47.745
100	2.263	7.467	26.022	36.657	38.694
105	1.810	4.526	19.686	29.416	31.453
110	1.131	1.358	13.803	22.854	25.117
115	0.679	0.679	9.051	16.971	19.686
120	0.000	0.000	4.526	12.219	14.708
125	0.000	0.000	1.358	7.467	9.730
130	0.000	0.000	0.000	3.847	5.431
135	0.000	0.000	0.000	0.905	2.037
140	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : 96-4-L40-835-HIAFR-(L25)-EM10W-DIM-UNV (EM MODE)\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	176.07	N.A.	12.70
0-30	366.68	N.A.	26.40
0-40	591.22	N.A.	42.60
0-60	1017.01	N.A.	73.30
0-80	1268.8	N.A.	91.40
0-90	1324.84	N.A.	95.40
10-90	1278.71	N.A.	92.10
20-40	415.15	N.A.	29.90
20-50	643.03	N.A.	46.30
40-70	577.32	N.A.	41.60
60-80	251.79	N.A.	18.10
70-80	100.26	N.A.	7.20
80-90	56.04	N.A.	4.00
90-110	50.13	N.A.	3.60
90-120	59.41	N.A.	4.30
90-130	62.70	N.A.	4.50
90-150	63.21	N.A.	4.60
90-180	63.21	N.A.	4.60
110-180	13.08	N.A.	0.90
0-180	1388.06	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	46.14
10-20	129.93
20-30	190.61
30-40	224.54
40-50	227.88
50-60	197.92
60-70	151.53
70-80	100.26
80-90	56.04
90-100	31.44
100-110	18.69
110-120	9.28
120-130	3.28
130-140	0.52
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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	95
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	85	83	81	78
2	97	89	82	76	94	86	80	74	82	77	72	78	73	70	74	71	67	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	78	67	59	53	64	57	51	61	55	50	59	53	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	50	42	36	62	49	41	35	47	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	35	31	40	35	30	28
9	56	42	34	29	54	42	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

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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	11.8	13.3	12.2	13.7	14.2	13.5	15.0	13.9	15.4	15.9
	3H	12.9	14.3	13.4	14.7	15.2	15.8	17.1	16.2	17.6	18.1
	4H	13.2	14.5	13.7	15.0	15.5	16.8	18.1	17.3	18.6	19.0
	6H	13.3	14.5	13.8	15.0	15.5	17.8	19.0	18.3	19.5	20.0
	8H	13.3	14.5	13.8	15.0	15.5	18.3	19.4	18.8	19.9	20.4
	12H	13.3	14.4	13.8	14.9	15.5	18.8	19.9	19.3	20.4	20.9

### UGR Viewed Endwise

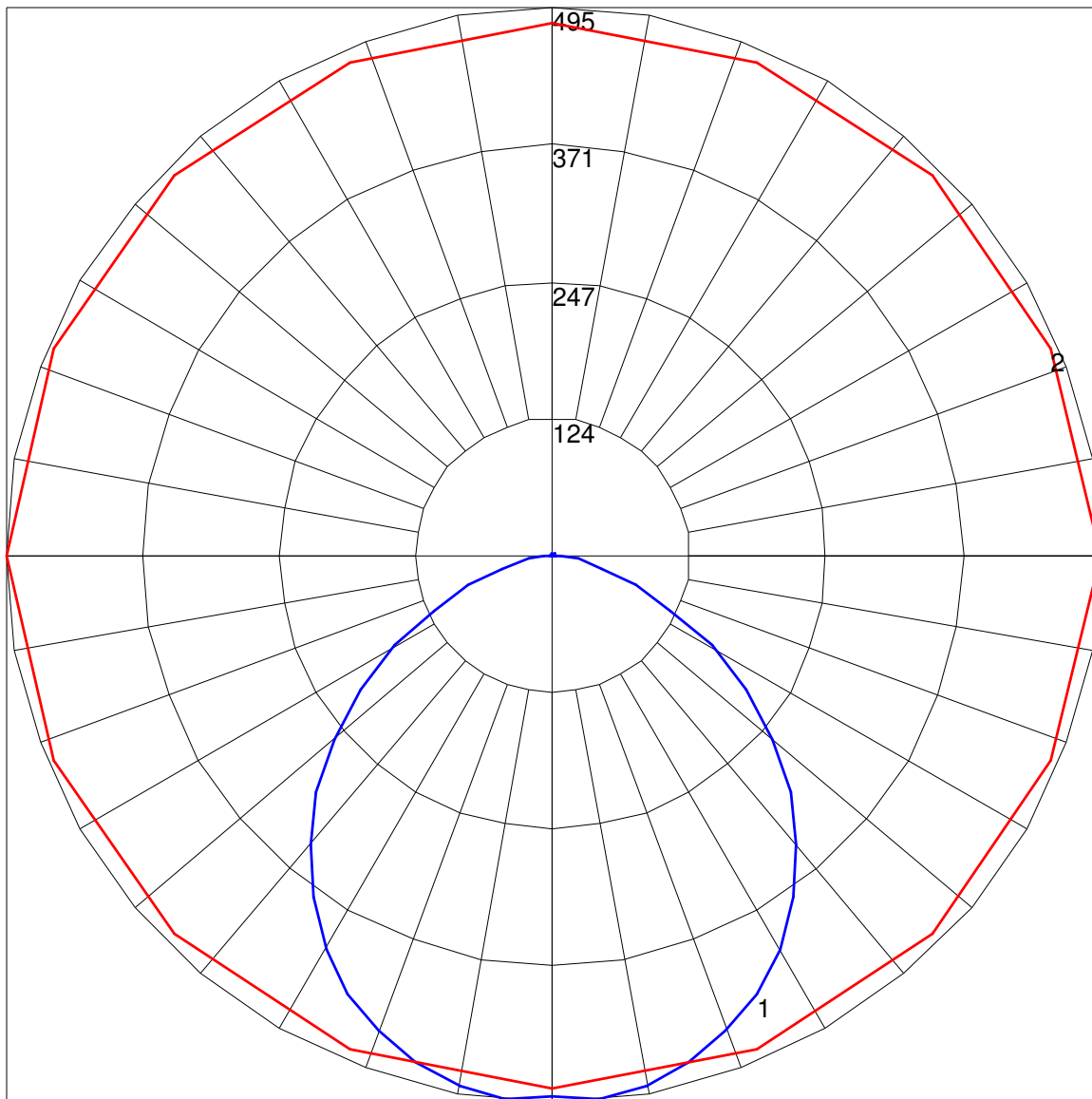
4H	2H	12.5	13.8	13.0	14.2	14.7	13.9	15.2	14.3	15.6	16.1
	3H	13.9	15.0	14.4	15.5	16.0	16.4	17.5	16.9	18.0	18.5
	4H	14.3	15.3	14.8	15.8	16.4	17.6	18.6	18.1	19.1	19.6
	6H	14.5	15.4	15.1	16.0	16.5	18.8	19.6	19.3	20.2	20.7
	8H	14.6	15.4	15.1	16.0	16.5	19.3	20.2	19.9	20.7	21.3
	12H	14.6	15.4	15.2	15.9	16.5	20.0	20.7	20.5	21.3	21.9
8H	4H	14.9	15.7	15.4	16.3	16.9	17.8	18.6	18.3	19.1	19.7
	6H	15.3	16.0	15.9	16.6	17.2	19.1	19.8	19.7	20.4	21.0
	8H	15.4	16.1	16.0	16.6	17.2	19.8	20.4	20.4	21.0	21.6
	12H	15.5	16.1	16.1	16.6	17.3	20.6	21.2	21.2	21.7	22.4
12H	4H	15.1	15.8	15.6	16.4	17.0	17.8	18.5	18.3	19.1	19.7
	6H	15.6	16.2	16.1	16.7	17.4	19.1	19.8	19.7	20.3	21.0
	8H	15.8	16.3	16.3	16.9	17.5	19.9	20.4	20.5	21.0	21.7

Maximum UGR = 22.4

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## POLAR GRAPH



Maximum Candela = 494.648 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.)