

## IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S24-L98-835-AD-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]GEN FROM BALLABS TEST NO. 19231.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 12-30-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 2x4' RECESSED LED TROFFER

[MORE] WITH FROST ACRYLIC DIFFUSER

[LUMCAT] DIG-S24-L98-835-AD-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[\_SEARCH\_SOURCE TYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct, Indirect

[\_SEARCH\_MOUNTING] Ceiling, Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9869
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	74.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.91 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	4476	4955	5254
55	3890	4553	4964
65	3504	4548	5444
75	2869	3897	3507
85	2403	2659	2914

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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>	3587.073	3587.073	3587.073	3587.073	3587.073
<b>5</b>	3544.587	3543.575	3543.575	3545.598	3545.598
<b>10</b>	3511.204	3513.228	3518.286	3527.390	3531.436
<b>15</b>	3372.618	3377.676	3396.896	3412.069	3417.127
<b>20</b>	3307.876	3310.911	3344.293	3372.618	3381.722
<b>25</b>	2975.066	2996.309	3042.842	3080.270	3097.467
<b>30</b>	2526.934	2709.019	2920.440	2854.687	2783.876
<b>35</b>	2530.981	2580.548	2669.567	2744.425	2770.726
<b>40</b>	2309.444	2371.150	2490.517	2580.548	2610.896
<b>45</b>	2155.683	2237.622	2386.324	2495.575	2529.969
<b>50</b>	1834.000	1919.984	2078.803	2188.054	2221.436
<b>55</b>	1519.398	1613.475	1778.363	1898.741	1939.205
<b>60</b>	1224.015	1321.127	1485.004	1631.683	1682.262
<b>65</b>	1008.548	1115.776	1308.988	1495.120	1566.942
<b>70</b>	754.641	865.915	1076.324	1147.135	1060.139
<b>75</b>	505.791	609.985	686.865	623.135	618.077
<b>80</b>	313.591	396.541	392.494	368.216	364.170
<b>85</b>	142.633	163.876	157.807	163.876	172.981
<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	1303.54	N.A.	13.20
0-30	2709.91	N.A.	27.50
0-40	4368.97	N.A.	44.30
0-60	7732.52	N.A.	78.40
0-80	9679.15	N.A.	98.10
0-90	9868.53	N.A.	100.00
10-90	9530.56	N.A.	96.60
20-40	3065.43	N.A.	31.10
20-50	4854.78	N.A.	49.20
40-70	4620.72	N.A.	46.80
60-80	1946.63	N.A.	19.70
70-80	689.46	N.A.	7.00
80-90	189.38	N.A.	1.90
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	9868.53	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	337.98
10-20	965.57
20-30	1406.37
30-40	1659.06
40-50	1789.35
50-60	1574.19
60-70	1257.17
70-80	689.46
80-90	189.38
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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

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**UGR TABLE - CORRECTED**

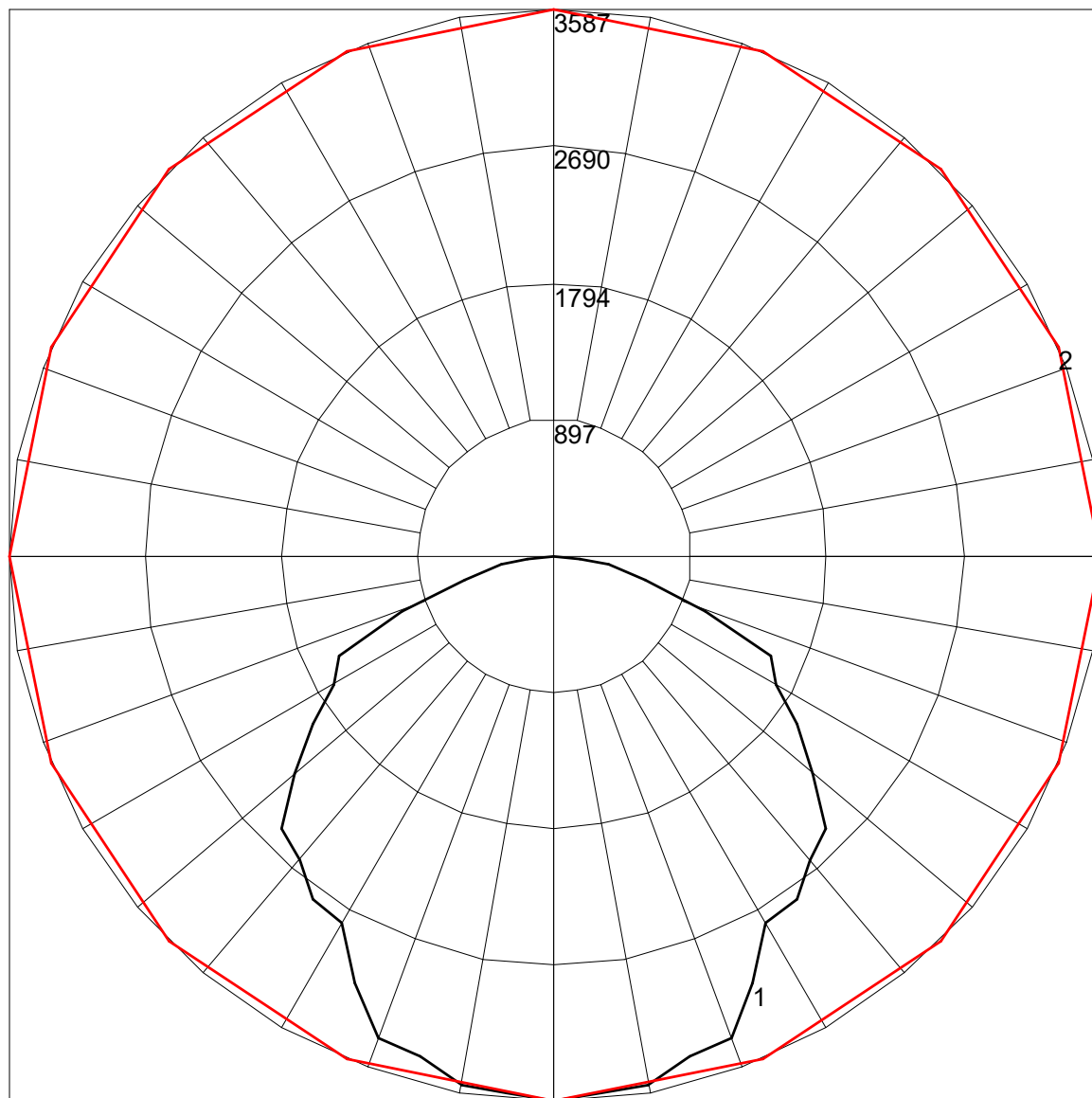
Reflectances

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	16.6	18.2	16.9	18.5	18.9	18.0	19.6	18.3	19.9	20.3
	3H	18.3	19.8	18.7	20.2	20.5	20.1	21.6	20.5	22.0	22.3
	4H	18.9	20.4	19.3	20.7	21.1	20.7	22.1	21.1	22.4	22.8
	6H	19.4	20.7	19.8	21.1	21.5	21.0	22.3	21.4	22.7	23.1
	8H	19.6	20.8	20.0	21.2	21.6	21.1	22.4	21.5	22.8	23.2
	12H	19.7	20.9	20.1	21.2	21.7	21.2	22.4	21.6	22.8	23.2
4H	2H	17.5	18.9	17.9	19.3	19.7	18.6	20.0	19.0	20.4	20.7
	3H	19.5	20.7	19.9	21.1	21.5	21.0	22.2	21.4	22.6	23.0
	4H	20.3	21.3	20.7	21.7	22.2	21.6	22.6	22.0	23.1	23.5
	6H	20.9	21.8	21.3	22.2	22.7	22.0	23.0	22.5	23.4	23.9
	8H	21.0	21.9	21.5	22.4	22.8	22.2	23.1	22.7	23.5	24.0
	12H	21.2	22.0	21.7	22.4	22.9	22.3	23.1	22.8	23.6	24.1
8H	4H	20.7	21.6	21.2	22.0	22.5	21.8	22.7	22.3	23.2	23.6
	6H	21.4	22.2	21.9	22.6	23.1	22.4	23.1	22.9	23.6	24.1
	8H	21.7	22.4	22.2	22.9	23.4	22.6	23.3	23.1	23.8	24.3
	12H	21.9	22.5	22.4	23.0	23.6	22.8	23.4	23.3	23.9	24.4
12H	4H	20.7	21.5	21.2	22.0	22.5	21.9	22.7	22.3	23.1	23.6
	6H	21.5	22.2	22.0	22.6	23.2	22.5	23.1	23.0	23.6	24.1
	8H	21.8	22.4	22.3	22.9	23.5	22.7	23.3	23.2	23.8	24.4

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 3587.073 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)