



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S22-L24-835-AD-(L20)-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

[ISSUEDATE] 10-30-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2'RECESSED LED TROFFER

[MORE] WITH FROST ACRYLIC DIFFUSER

[LUMCAT] DIG-S22-L24-835-AD-(L20)-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[\_SEARCH\_SOURCETYPE] 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	2007
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	15.6
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)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1809	2002	2123
55	1572	1839	2006
65	1416	1837	2200
75	1159	1574	1417
85	971	1074	1177

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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>	729.482	729.482	729.482	729.482	729.482
<b>5</b>	720.841	720.636	720.636	721.047	721.047
<b>10</b>	714.053	714.464	715.493	717.344	718.167
<b>15</b>	685.869	686.898	690.806	693.892	694.921
<b>20</b>	672.703	673.320	680.109	685.869	687.721
<b>25</b>	605.021	609.341	618.805	626.416	629.913
<b>30</b>	513.888	550.917	593.912	580.541	566.140
<b>35</b>	514.710	524.791	542.894	558.117	563.466
<b>40</b>	469.658	482.207	506.482	524.791	530.962
<b>45</b>	438.388	455.052	485.293	507.510	514.505
<b>50</b>	372.970	390.456	422.754	444.972	451.760
<b>55</b>	308.991	328.123	361.655	386.136	394.364
<b>60</b>	248.921	268.670	301.996	331.826	342.112
<b>65</b>	205.102	226.909	266.201	304.054	318.660
<b>70</b>	153.467	176.096	218.886	233.286	215.594
<b>75</b>	102.860	124.049	139.684	126.723	125.695
<b>80</b>	63.773	80.642	79.819	74.882	74.059
<b>85</b>	29.006	33.327	32.092	33.327	35.178
<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	265.09	N.A.	13.20
0-30	551.10	N.A.	27.50
0-40	888.49	N.A.	44.30
0-60	1572.52	N.A.	78.40
0-80	1968.39	N.A.	98.10
0-90	2006.9	N.A.	100.00
10-90	1938.17	N.A.	96.60
20-40	623.40	N.A.	31.10
20-50	987.29	N.A.	49.20
40-70	939.69	N.A.	46.80
60-80	395.88	N.A.	19.70
70-80	140.21	N.A.	7.00
80-90	38.51	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	2006.9	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	68.73
10-20	196.36
20-30	286.01
30-40	337.39
40-50	363.89
50-60	320.13
60-70	255.66
70-80	140.21
80-90	38.51
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

X=2H	Y=2H	13.4	15.0	13.7	15.3	15.6	14.8	16.4	15.1	16.7	17.0
	3H	15.1	16.6	15.5	16.9	17.3	16.9	18.4	17.3	18.7	19.1
	4H	15.7	17.1	16.1	17.5	17.9	17.4	18.8	17.8	19.2	19.6
	6H	16.2	17.5	16.6	17.9	18.2	17.8	19.1	18.2	19.5	19.8
	8H	16.3	17.6	16.8	18.0	18.4	17.9	19.1	18.3	19.5	19.9
	12H	16.5	17.6	16.9	18.0	18.5	18.0	19.2	18.4	19.6	20.0

### UGR Viewed Endwise

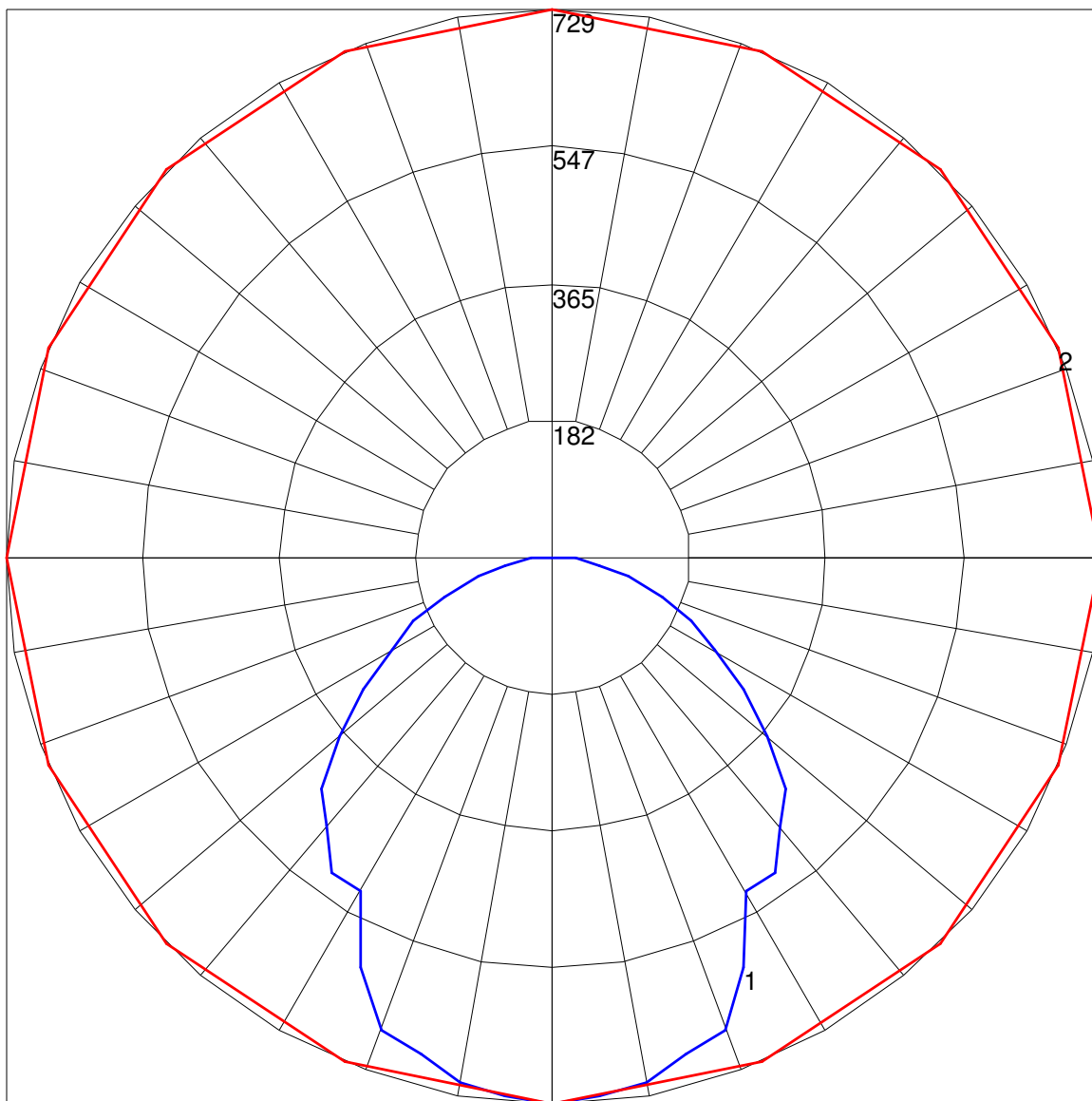
4H	2H	14.3	15.7	14.7	16.1	16.5	15.4	16.8	15.8	17.1	17.5
	3H	16.3	17.5	16.7	17.9	18.3	17.8	18.9	18.2	19.3	19.7
	4H	17.0	18.1	17.5	18.5	19.0	18.4	19.4	18.8	19.8	20.3
	6H	17.6	18.6	18.1	19.0	19.5	18.8	19.8	19.3	20.2	20.6
	8H	17.8	18.7	18.3	19.1	19.6	19.0	19.9	19.4	20.3	20.8
	12H	18.0	18.8	18.4	19.2	19.7	19.1	19.9	19.6	20.4	20.8

8H	4H	17.5	18.4	17.9	18.8	19.3	18.6	19.5	19.1	19.9	20.4
	6H	18.2	18.9	18.7	19.4	19.9	19.2	19.9	19.7	20.4	20.9
	8H	18.5	19.1	19.0	19.7	20.1	19.4	20.1	19.9	20.6	21.1
	12H	18.7	19.3	19.2	19.8	20.3	19.6	20.2	20.1	20.7	21.2

12H	4H	17.5	18.3	18.0	18.8	19.3	18.6	19.4	19.1	19.9	20.4
	6H	18.3	19.0	18.8	19.4	20.0	19.2	19.9	19.8	20.4	20.9
	8H	18.6	19.2	19.1	19.7	20.3	19.5	20.1	20.0	20.6	21.1

Maximum UGR = 21.2

POLAR GRAPH



Maximum Candela = 729.482 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)