



IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S24-L98-835-AD-(L90)-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] 06-12-2023

[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-(L90)-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	9037
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	66.9
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	4099	4538	4811
55	3562	4169	4546
65	3209	4165	4985
75	2628	3568	3211
85	2200	2435	2669

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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	3284.666	3284.666	3284.666	3284.666	3284.666
5	3245.761	3244.835	3244.835	3246.688	3246.688
10	3215.193	3217.046	3221.678	3230.014	3233.720
15	3088.290	3092.922	3110.521	3124.416	3129.047
20	3029.007	3031.786	3062.354	3088.290	3096.627
25	2724.254	2743.706	2786.316	2820.589	2836.336
30	2313.902	2480.636	2674.233	2614.024	2549.182
35	2317.607	2362.996	2444.510	2513.057	2537.141
40	2114.747	2171.251	2280.555	2362.996	2390.785
45	1973.949	2048.980	2185.146	2285.186	2316.681
50	1679.385	1758.121	1903.550	2003.591	2034.159
55	1391.305	1477.451	1628.439	1738.668	1775.721
60	1120.825	1209.750	1359.811	1494.125	1540.440
65	923.523	1021.711	1198.634	1369.074	1434.841
70	691.021	792.914	985.585	1050.426	970.764
75	463.151	558.560	628.959	570.602	565.970
80	287.154	363.110	359.405	337.174	333.469
85	130.609	150.061	144.503	150.061	158.398
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1193.65	N.A.	13.20
0-30	2481.46	N.A.	27.50
0-40	4000.65	N.A.	44.30
0-60	7080.63	N.A.	78.40
0-80	8863.16	N.A.	98.10
0-90	9036.57	N.A.	100.00
10-90	8727.09	N.A.	96.60
20-40	2807.00	N.A.	31.10
20-50	4445.5	N.A.	49.20
40-70	4231.17	N.A.	46.80
60-80	1782.52	N.A.	19.70
70-80	631.34	N.A.	7.00
80-90	173.41	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	9036.57	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	309.48
10-20	884.17
20-30	1287.81
30-40	1519.19
40-50	1638.5
50-60	1441.48
60-70	1151.19
70-80	631.34
80-90	173.41
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

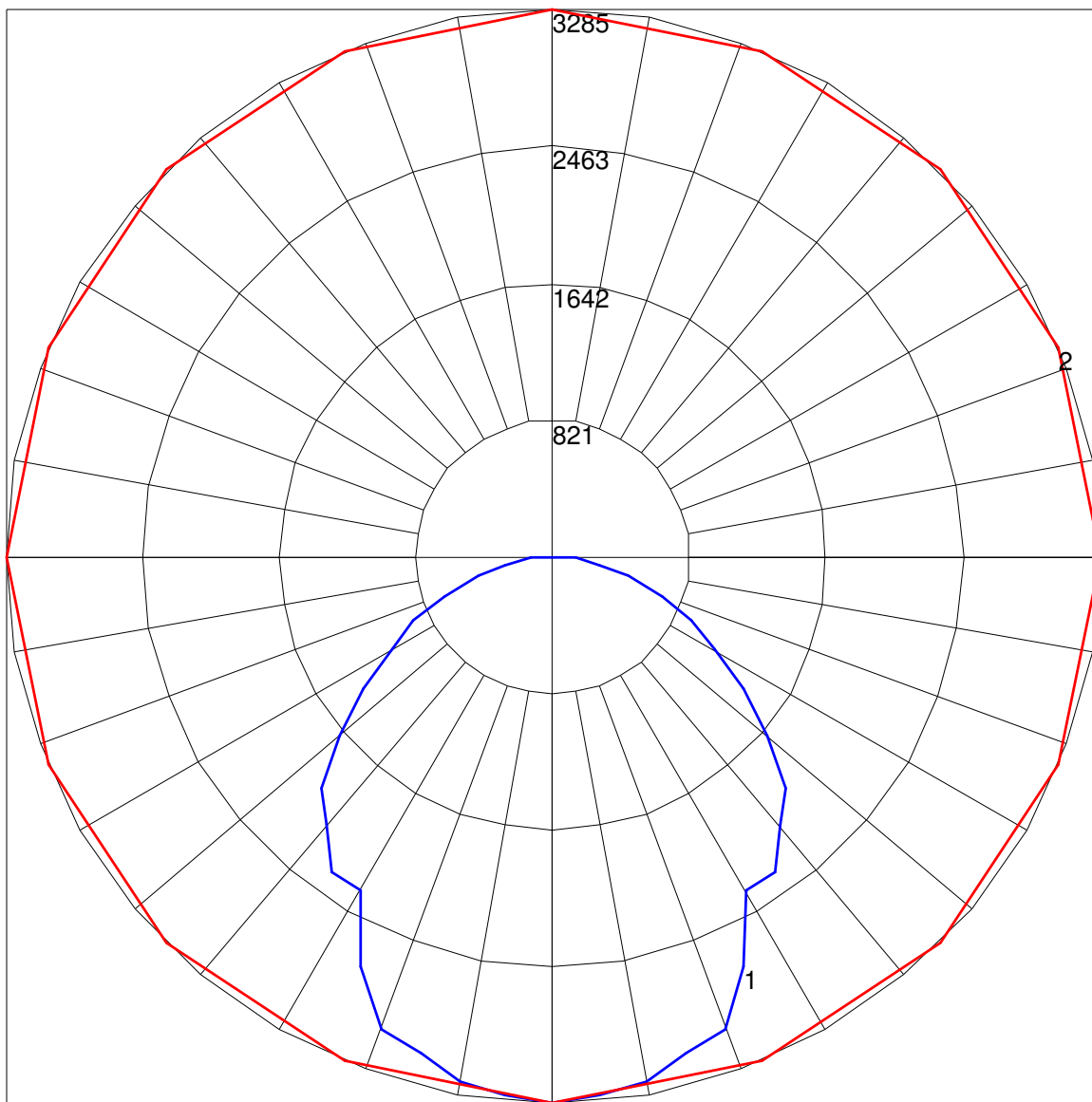
Reflectances

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	16.2	17.8	16.5	18.1	18.5	17.6	19.2	17.9	19.5	19.9
	3H	17.9	19.4	18.3	19.8	20.1	19.7	21.2	20.1	21.6	21.9
	4H	18.5	20.0	18.9	20.3	20.7	20.3	21.7	20.7	22.0	22.4
	6H	19.0	20.3	19.4	20.7	21.1	20.6	21.9	21.0	22.3	22.7
	8H	19.2	20.4	19.6	20.8	21.2	20.7	22.0	21.1	22.4	22.8
	12H	19.3	20.5	19.7	20.8	21.3	20.8	22.0	21.2	22.4	22.8
4H	2H	17.1	18.5	17.5	18.9	19.3	18.2	19.6	18.6	20.0	20.3
	3H	19.1	20.3	19.5	20.7	21.1	20.6	21.8	21.0	22.2	22.6
	4H	19.9	20.9	20.3	21.3	21.8	21.2	22.2	21.6	22.7	23.1
	6H	20.5	21.4	20.9	21.8	22.3	21.6	22.6	22.1	23.0	23.5
	8H	20.6	21.5	21.1	22.0	22.4	21.8	22.7	22.3	23.1	23.6
	12H	20.8	21.6	21.3	22.0	22.5	21.9	22.7	22.4	23.2	23.7
8H	4H	20.3	21.2	20.8	21.6	22.1	21.4	22.3	21.9	22.8	23.2
	6H	21.0	21.8	21.5	22.2	22.7	22.0	22.7	22.5	23.2	23.7
	8H	21.3	22.0	21.8	22.5	23.0	22.2	22.9	22.7	23.4	23.9
	12H	21.5	22.1	22.0	22.6	23.2	22.4	23.0	22.9	23.5	24.0
12H	4H	20.3	21.1	20.8	21.6	22.1	21.5	22.3	21.9	22.7	23.2
	6H	21.1	21.8	21.6	22.2	22.8	22.1	22.7	22.6	23.2	23.7
	8H	21.4	22.0	21.9	22.5	23.1	22.3	22.9	22.8	23.4	24.0

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 3284.666 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.)