



IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S22-L48-930-AD-(L45)-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] 10-04-2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2' RECESSED LED TROFFER

[MORE] WITH FROST ACRYLIC DIFFUSER

[LUMCAT] DIG-S22-L48-930-AD-(L45)-DIM-UNV

[LAMPCAT] HLM 90 CRI, 3000K 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	3691
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	33.9
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)	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	3326	3682	3904
55	2890	3383	3689
65	2604	3379	4045
75	2132	2895	2605
85	1785	1975	2165

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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	1341.563	1341.563	1341.563	1341.563	1341.563
5	1325.673	1325.295	1325.295	1326.051	1326.051
10	1313.188	1313.945	1315.836	1319.241	1320.755
15	1261.357	1263.248	1270.437	1276.111	1278.003
20	1237.143	1238.278	1250.763	1261.357	1264.762
25	1112.672	1120.617	1138.021	1152.019	1158.450
30	945.072	1013.171	1092.242	1067.651	1041.168
35	946.585	965.123	998.416	1026.413	1036.249
40	863.730	886.809	931.452	965.123	976.473
45	806.224	836.869	892.484	933.343	946.207
50	685.915	718.073	777.471	818.331	830.816
55	568.254	603.438	665.106	710.128	725.261
60	457.781	494.101	555.390	610.248	629.165
65	377.196	417.299	489.561	559.174	586.035
70	282.235	323.852	402.545	429.028	396.491
75	189.166	228.134	256.887	233.052	231.160
80	117.283	148.306	146.793	137.713	136.199
85	53.345	61.290	59.020	61.290	64.695
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	487.52	N.A.	13.20
0-30	1013.51	N.A.	27.50
0-40	1633.99	N.A.	44.30
0-60	2891.96	N.A.	78.40
0-80	3620.00	N.A.	98.10
0-90	3690.82	N.A.	100.00
10-90	3564.42	N.A.	96.60
20-40	1146.47	N.A.	31.10
20-50	1815.68	N.A.	49.20
40-70	1728.15	N.A.	46.80
60-80	728.04	N.A.	19.70
70-80	257.86	N.A.	7.00
80-90	70.83	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	3690.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	126.40
10-20	361.12
20-30	525.98
30-40	620.49
40-50	669.22
50-60	588.75
60-70	470.18
70-80	257.86
80-90	70.83
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

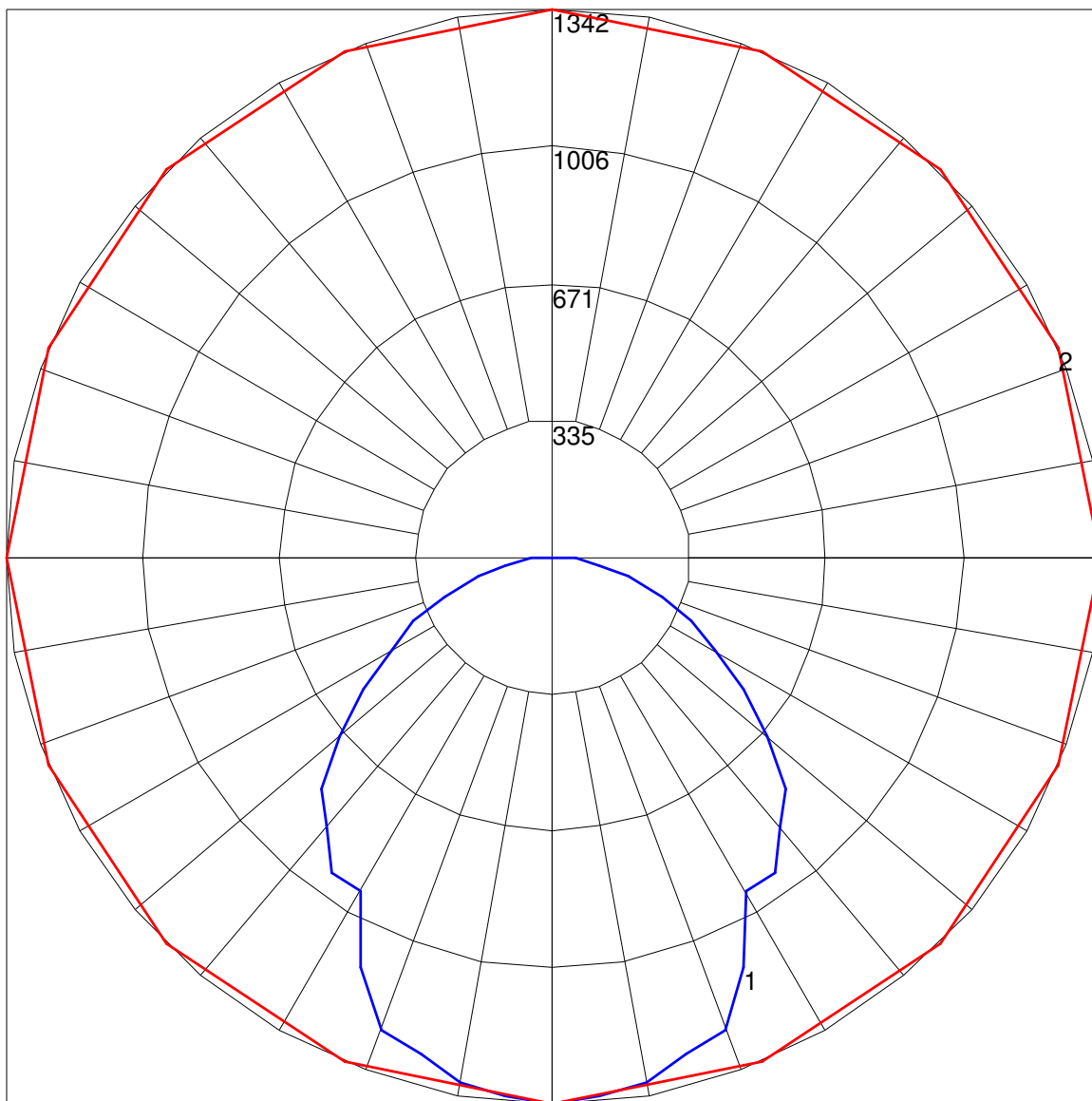
X=2H	Y=2H	15.5	17.1	15.8	17.4	17.7	16.9	18.5	17.2	18.8	19.1
	3H	17.2	18.7	17.6	19.0	19.4	19.0	20.5	19.4	20.8	21.2
	4H	17.8	19.2	18.2	19.6	20.0	19.5	20.9	19.9	21.3	21.7
	6H	18.3	19.6	18.7	20.0	20.4	19.9	21.2	20.3	21.6	21.9
	8H	18.4	19.7	18.9	20.1	20.5	20.0	21.2	20.4	21.6	22.0
	12H	18.6	19.7	19.0	20.1	20.6	20.1	21.3	20.5	21.7	22.1

UGR Viewed Endwise

4H	2H	16.4	17.8	16.8	18.2	18.6	17.5	18.9	17.9	19.2	19.6
	3H	18.4	19.6	18.8	20.0	20.4	19.9	21.0	20.3	21.4	21.8
	4H	19.1	20.2	19.6	20.6	21.1	20.5	21.5	20.9	21.9	22.4
	6H	19.7	20.7	20.2	21.1	21.6	20.9	21.9	21.4	22.3	22.8
	8H	19.9	20.8	20.4	21.2	21.7	21.1	22.0	21.5	22.4	22.9
	12H	20.1	20.9	20.5	21.3	21.8	21.2	22.0	21.7	22.5	22.9
8H	4H	19.6	20.5	20.0	20.9	21.4	20.7	21.6	21.2	22.0	22.5
	6H	20.3	21.0	20.8	21.5	22.0	21.3	22.0	21.8	22.5	23.0
	8H	20.6	21.3	21.1	21.8	22.2	21.5	22.2	22.0	22.7	23.2
	12H	20.8	21.4	21.3	21.9	22.4	21.7	22.3	22.2	22.8	23.3
12H	4H	19.6	20.4	20.1	20.9	21.4	20.8	21.5	21.2	22.0	22.5
	6H	20.4	21.1	20.9	21.5	22.1	21.3	22.0	21.9	22.5	23.0
	8H	20.7	21.3	21.2	21.8	22.4	21.6	22.2	22.1	22.7	23.2

Maximum UGR = 23.3

POLAR GRAPH



Maximum Candela = 1341.563 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.)