



IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S22-L32-840-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

[ISSUEDATE]05-19-2020

[MANUFAC]WILLIAMS INDOOR

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

[LUMINAIRE] 2x2'RECESSED LED TROFFER

[MORE] WITH FROST ACRYLIC DIFFUSER

[LUMCAT] DIG-S22-L32-840-AD-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K 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	3384
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	131
Total Luminaire Watts	25.8
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)	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	3049	3376	3579
55	2650	3101	3382
65	2387	3098	3709
75	1955	2655	2389
85	1637	1811	1985

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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	1229.978	1229.978	1229.978	1229.978	1229.978
5	1215.410	1215.063	1215.063	1215.757	1215.757
10	1203.963	1204.657	1206.391	1209.513	1210.901
15	1156.443	1158.177	1164.768	1169.971	1171.705
20	1134.244	1135.284	1146.731	1156.443	1159.565
25	1020.126	1027.410	1043.365	1056.199	1062.096
30	866.465	928.900	1001.395	978.849	954.568
35	867.852	884.849	915.373	941.041	950.059
40	791.889	813.048	853.978	884.849	895.255
45	739.166	767.262	818.251	855.712	867.506
50	628.864	658.347	712.805	750.266	761.712
55	520.989	553.247	609.786	651.063	664.937
60	419.705	453.004	509.196	559.491	576.834
65	345.823	382.590	448.841	512.664	537.292
70	258.760	296.915	369.063	393.343	363.513
75	173.432	209.159	235.520	213.668	211.934
80	107.528	135.970	134.583	126.258	124.871
85	48.908	56.192	54.111	56.192	59.314
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	446.97	N.A.	13.20
0-30	929.21	N.A.	27.50
0-40	1498.08	N.A.	44.30
0-60	2651.42	N.A.	78.40
0-80	3318.9	N.A.	98.10
0-90	3383.84	N.A.	100.00
10-90	3267.95	N.A.	96.60
20-40	1051.11	N.A.	31.10
20-50	1664.66	N.A.	49.20
40-70	1584.41	N.A.	46.80
60-80	667.48	N.A.	19.70
70-80	236.41	N.A.	7.00
80-90	64.94	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	3383.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	115.89
10-20	331.09
20-30	482.23
30-40	568.88
40-50	613.55
50-60	539.78
60-70	431.07
70-80	236.41
80-90	64.94
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

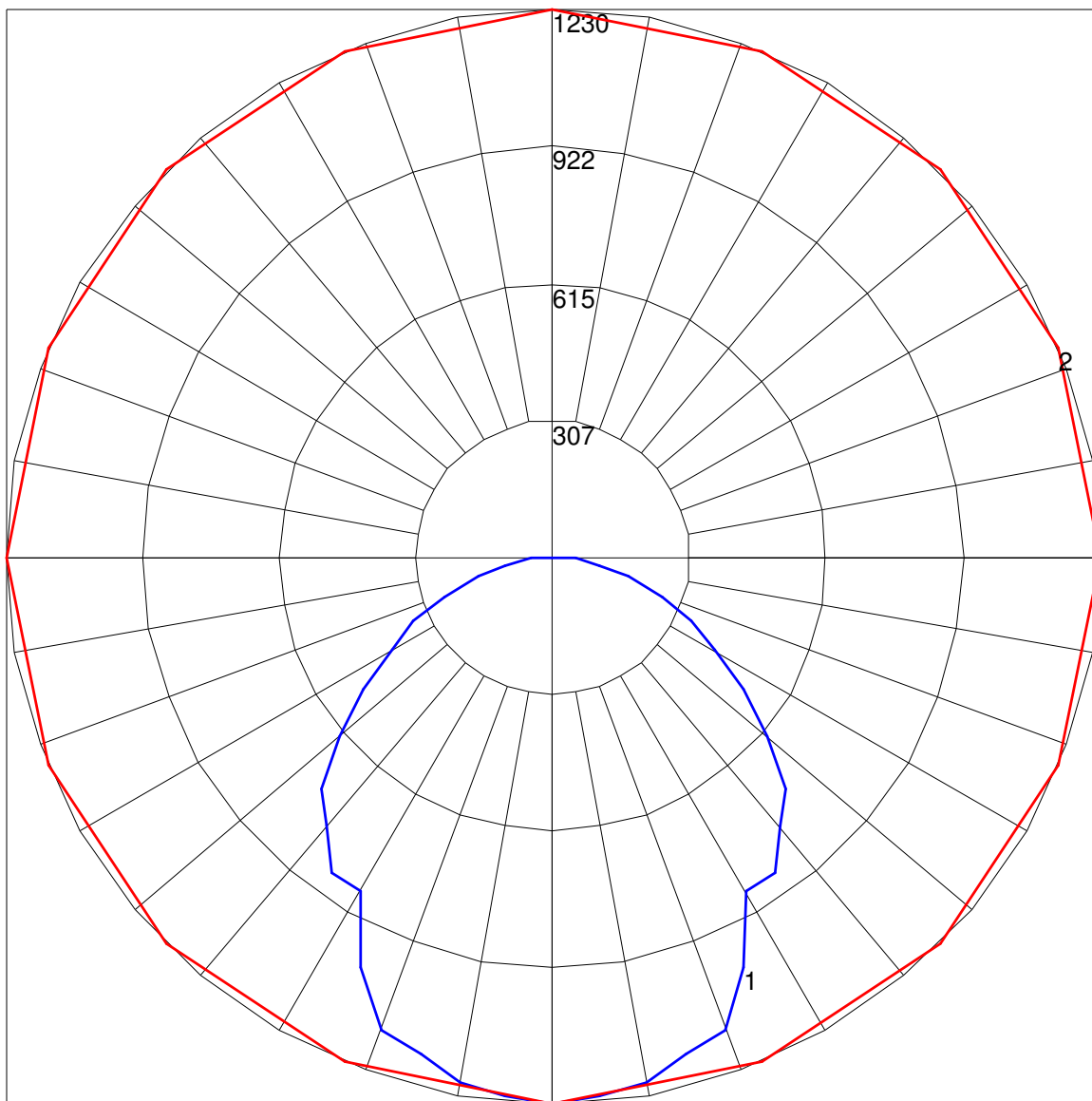
Reflectances

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	15.2	16.8	15.5	17.1	17.4	16.6	18.2	16.9	18.5	18.8
	3H	16.9	18.4	17.3	18.7	19.1	18.7	20.2	19.1	20.5	20.9
	4H	17.5	18.9	17.9	19.3	19.7	19.2	20.6	19.6	21.0	21.4
	6H	18.0	19.3	18.4	19.7	20.1	19.6	20.9	20.0	21.3	21.6
	8H	18.1	19.4	18.6	19.8	20.2	19.7	20.9	20.1	21.3	21.7
	12H	18.3	19.4	18.7	19.8	20.3	19.8	21.0	20.2	21.4	21.8
4H	2H	16.1	17.5	16.5	17.9	18.3	17.2	18.6	17.6	18.9	19.3
	3H	18.1	19.3	18.5	19.7	20.1	19.6	20.7	20.0	21.1	21.5
	4H	18.8	19.9	19.3	20.3	20.8	20.2	21.2	20.6	21.6	22.1
	6H	19.4	20.4	19.9	20.8	21.3	20.6	21.6	21.1	22.0	22.5
	8H	19.6	20.5	20.1	20.9	21.4	20.8	21.7	21.2	22.1	22.6
	12H	19.8	20.6	20.2	21.0	21.5	20.9	21.7	21.4	22.2	22.6
8H	4H	19.3	20.2	19.7	20.6	21.1	20.4	21.3	20.9	21.7	22.2
	6H	20.0	20.7	20.5	21.2	21.7	21.0	21.7	21.5	22.2	22.7
	8H	20.3	21.0	20.8	21.5	21.9	21.2	21.9	21.7	22.4	22.9
	12H	20.5	21.1	21.0	21.6	22.1	21.4	22.0	21.9	22.5	23.0
12H	4H	19.3	20.1	19.8	20.6	21.1	20.5	21.2	20.9	21.7	22.2
	6H	20.1	20.8	20.6	21.2	21.8	21.0	21.7	21.6	22.2	22.7
	8H	20.4	21.0	20.9	21.5	22.1	21.3	21.9	21.8	22.4	22.9

Maximum UGR = 23.0

POLAR GRAPH



Maximum Candela = 1229.978 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.)