



IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S22-L24-840-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-L24-840-AD-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K 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	2546
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	19.6
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	2294	2540	2693
55	1994	2333	2544
65	1796	2331	2790
75	1471	1997	1797
85	1232	1363	1494

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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	925.391	925.391	925.391	925.391	925.391
5	914.431	914.170	914.170	914.691	914.691
10	905.819	906.341	907.645	909.994	911.038
15	870.066	871.371	876.329	880.244	881.549
20	853.364	854.147	862.759	870.066	872.415
25	767.506	772.986	784.991	794.646	799.083
30	651.897	698.871	753.413	736.451	718.183
35	652.941	665.728	688.694	708.005	714.790
40	595.789	611.708	642.502	665.728	673.557
45	556.122	577.260	615.623	643.807	652.680
50	473.134	495.317	536.288	564.473	573.085
55	391.973	416.243	458.781	489.836	500.275
60	315.771	340.824	383.100	420.941	433.989
65	260.185	287.847	337.692	385.710	404.239
70	194.682	223.388	277.670	295.937	273.494
75	130.484	157.363	177.197	160.756	159.451
80	80.900	102.299	101.255	94.992	93.948
85	36.796	42.277	40.711	42.277	44.625
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	336.29	N.A.	13.20
0-30	699.10	N.A.	27.50
0-40	1127.1	N.A.	44.30
0-60	1994.83	N.A.	78.40
0-80	2497.02	N.A.	98.10
0-90	2545.88	N.A.	100.00
10-90	2458.69	N.A.	96.60
20-40	790.82	N.A.	31.10
20-50	1252.43	N.A.	49.20
40-70	1192.05	N.A.	46.80
60-80	502.19	N.A.	19.70
70-80	177.87	N.A.	7.00
80-90	48.86	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	2545.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	87.19
10-20	249.10
20-30	362.81
30-40	428.00
40-50	461.62
50-60	406.11
60-70	324.33
70-80	177.87
80-90	48.86
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

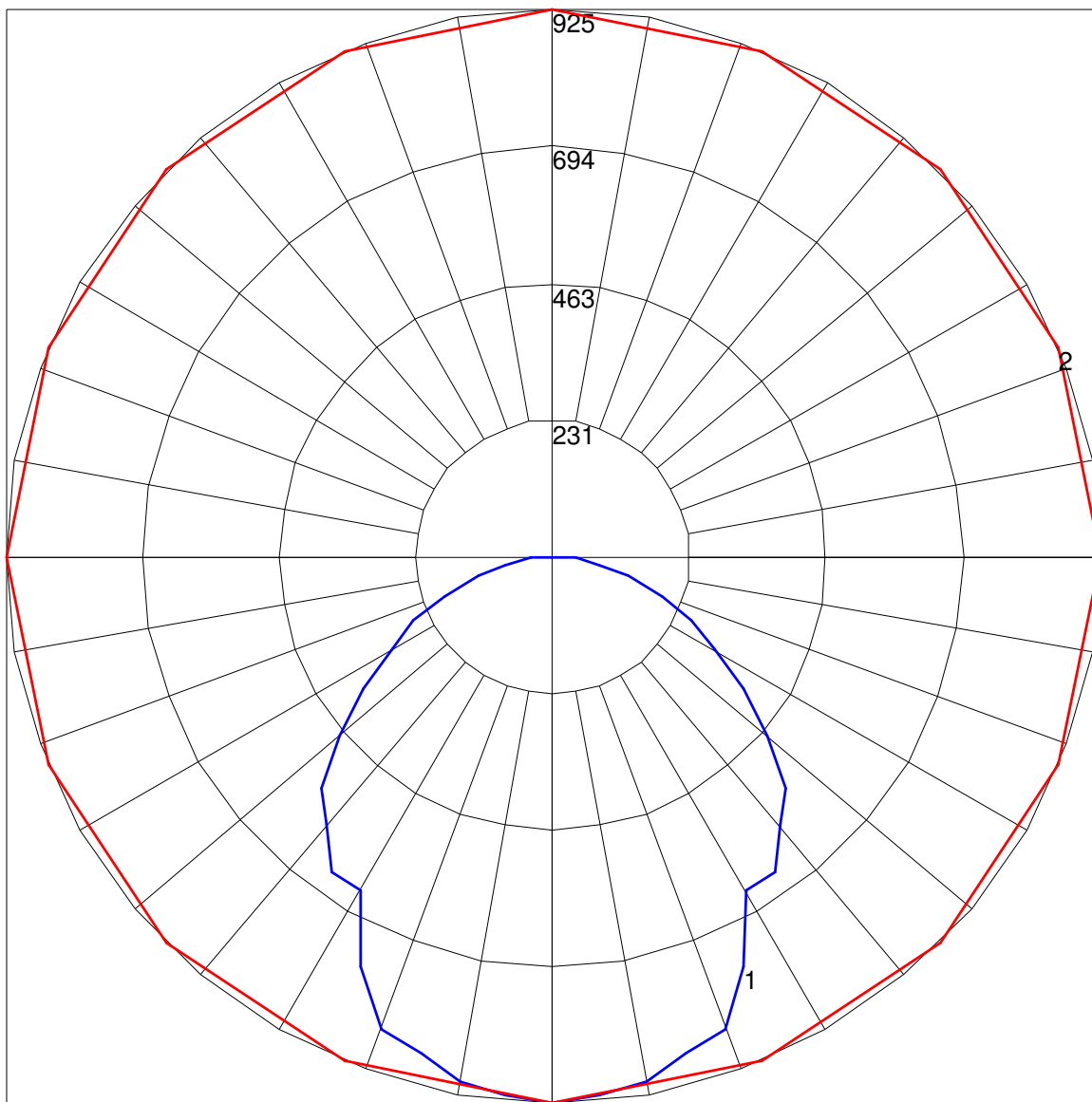
Reflectances

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	14.2	15.8	14.5	16.1	16.4	15.6	17.2	15.9	17.5	17.8
	3H	15.9	17.4	16.3	17.7	18.1	17.7	19.2	18.1	19.5	19.9
	4H	16.5	17.9	16.9	18.3	18.7	18.2	19.6	18.6	20.0	20.4
	6H	17.0	18.3	17.4	18.7	19.0	18.6	19.9	19.0	20.3	20.6
	8H	17.1	18.4	17.6	18.8	19.2	18.7	19.9	19.1	20.3	20.7
	12H	17.3	18.4	17.7	18.8	19.3	18.8	20.0	19.2	20.4	20.8
4H	2H	15.1	16.5	15.5	16.9	17.3	16.2	17.6	16.6	17.9	18.3
	3H	17.1	18.3	17.5	18.7	19.1	18.6	19.7	19.0	20.1	20.5
	4H	17.8	18.9	18.3	19.3	19.8	19.2	20.2	19.6	20.6	21.1
	6H	18.4	19.4	18.9	19.8	20.3	19.6	20.6	20.1	21.0	21.4
	8H	18.6	19.5	19.1	19.9	20.4	19.8	20.7	20.2	21.1	21.6
	12H	18.8	19.6	19.2	20.0	20.5	19.9	20.7	20.4	21.2	21.6
8H	4H	18.3	19.2	18.7	19.6	20.1	19.4	20.3	19.9	20.7	21.2
	6H	19.0	19.7	19.5	20.2	20.7	20.0	20.7	20.5	21.2	21.7
	8H	19.3	19.9	19.8	20.5	20.9	20.2	20.9	20.7	21.4	21.9
	12H	19.5	20.1	20.0	20.6	21.1	20.4	21.0	20.9	21.5	22.0
12H	4H	18.3	19.1	18.8	19.6	20.1	19.4	20.2	19.9	20.7	21.2
	6H	19.1	19.8	19.6	20.2	20.8	20.0	20.7	20.6	21.2	21.7
	8H	19.4	20.0	19.9	20.5	21.1	20.3	20.9	20.8	21.4	21.9

Maximum UGR = 22.0

POLAR GRAPH



Maximum Candela = 925.391 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.)