

IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S22-L24-835-WPR-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

[ISSUE DATE] 08-22-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x2'RECESSED LED TROFFER

[MORE] WITH WHITE PERFORATED ROUND

[LUMCAT] DIG-S22-L24-835-WPR-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K 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	2210
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	21.31
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	1992	2205	2338
55	1731	2026	2209
65	1559	2024	2423
75	1277	1734	1560
85	1069	1183	1297

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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	803.455	803.455	803.455	803.455	803.455
5	793.938	793.712	793.712	794.165	794.165
10	786.461	786.914	788.047	790.087	790.993
15	755.420	756.553	760.858	764.256	765.389
20	740.919	741.598	749.075	755.420	757.459
25	666.374	671.132	681.554	689.938	693.790
30	565.998	606.783	654.138	639.410	623.550
35	566.905	578.007	597.946	614.713	620.604
40	517.284	531.105	557.841	578.007	584.805
45	482.843	501.196	534.504	558.974	566.678
50	410.791	430.050	465.623	490.094	497.571
55	340.324	361.396	398.329	425.292	434.355
60	274.163	295.914	332.620	365.475	376.804
65	225.901	249.918	293.195	334.886	350.973
70	169.029	193.953	241.082	256.942	237.456
75	113.290	136.628	153.848	139.574	138.441
80	70.240	88.820	87.913	82.475	81.569
85	31.948	36.706	35.347	36.706	38.745
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	291.98	N.A.	13.20
0-30	606.98	N.A.	27.50
0-40	978.59	N.A.	44.30
0-60	1731.98	N.A.	78.40
0-80	2168.00	N.A.	98.10
0-90	2210.41	N.A.	100.00
10-90	2134.71	N.A.	96.60
20-40	686.61	N.A.	31.10
20-50	1087.4	N.A.	49.20
40-70	1034.98	N.A.	46.80
60-80	436.02	N.A.	19.70
70-80	154.43	N.A.	7.00
80-90	42.42	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	2210.41	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	75.70
10-20	216.27
20-30	315.01
30-40	371.61
40-50	400.79
50-60	352.60
60-70	281.59
70-80	154.43
80-90	42.42
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	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	65	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	36	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

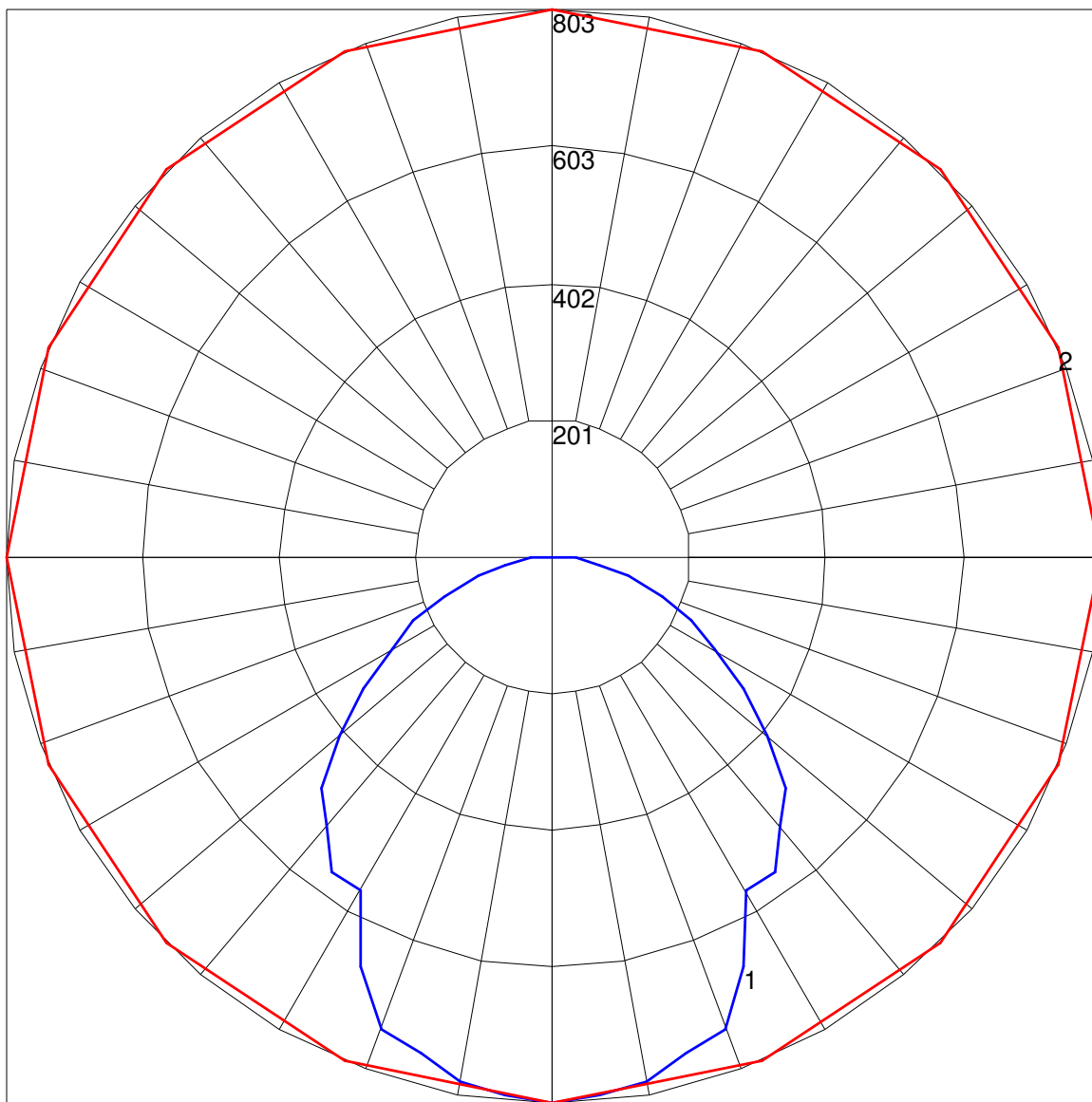
Reflectances

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	13.8	15.4	14.1	15.7	16.0	15.2	16.8	15.5	17.1	17.4
	3H	15.5	17.0	15.9	17.3	17.7	17.3	18.8	17.7	19.1	19.5
	4H	16.1	17.5	16.5	17.9	18.3	17.8	19.2	18.2	19.6	20.0
	6H	16.6	17.9	17.0	18.3	18.7	18.2	19.5	18.6	19.9	20.2
	8H	16.7	18.0	17.2	18.4	18.8	18.3	19.5	18.7	19.9	20.3
	12H	16.9	18.0	17.3	18.4	18.9	18.4	19.6	18.8	20.0	20.4
4H	2H	14.7	16.1	15.1	16.5	16.9	15.8	17.2	16.2	17.5	17.9
	3H	16.7	17.9	17.1	18.3	18.7	18.2	19.3	18.6	19.7	20.1
	4H	17.4	18.5	17.9	18.9	19.4	18.8	19.8	19.2	20.2	20.7
	6H	18.0	19.0	18.5	19.4	19.9	19.2	20.2	19.7	20.6	21.1
	8H	18.2	19.1	18.7	19.5	20.0	19.4	20.3	19.8	20.7	21.2
	12H	18.4	19.2	18.8	19.6	20.1	19.5	20.3	20.0	20.8	21.2
8H	4H	17.9	18.8	18.3	19.2	19.7	19.0	19.9	19.5	20.3	20.8
	6H	18.6	19.3	19.1	19.8	20.3	19.6	20.3	20.1	20.8	21.3
	8H	18.9	19.6	19.4	20.1	20.5	19.8	20.5	20.3	21.0	21.5
	12H	19.1	19.7	19.6	20.2	20.7	20.0	20.6	20.5	21.1	21.6
12H	4H	17.9	18.7	18.4	19.2	19.7	19.1	19.8	19.5	20.3	20.8
	6H	18.7	19.4	19.2	19.8	20.4	19.6	20.3	20.2	20.8	21.3
	8H	19.0	19.6	19.5	20.1	20.7	19.9	20.5	20.4	21.0	21.5

Maximum UGR = 21.6

POLAR GRAPH



Maximum Candela = 803.455 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.)