



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-24-L69-8TW-D-DALI-UNV 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18887.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 03-JAN-2020

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 4-32 LED 22"ARRAYS-SERIES 2x4' RECESSED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/DEEP ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT2-24-L69-8TW-D-DALI-UNV 4000k

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Office, Direct

[_SEARCH_MOUNTING] Ceiling, Recessed

[_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7101
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	68.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.26
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3507	3732	3889
55	3020	3258	3381
65	2627	2907	3047
75	2173	2602	2731
85	1656	2081	1911

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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	2982.136	2982.136	2982.136	2982.136	2982.136
5	2982.136	2982.136	2982.136	2986.707	2986.707
10	2895.300	2897.585	2906.726	2918.152	2927.292
15	2790.183	2799.323	2822.175	2842.741	2856.452
20	2630.221	2646.218	2682.780	2719.343	2737.624
25	2410.846	2429.127	2481.686	2525.104	2541.100
30	2202.896	2230.318	2287.447	2340.006	2360.572
35	2020.083	2047.505	2113.775	2170.904	2186.900
40	1748.149	1782.426	1850.981	1901.255	1924.106
45	1531.059	1563.051	1629.320	1675.024	1697.875
50	1293.402	1325.394	1384.808	1430.511	1441.937
55	1069.456	1096.878	1154.007	1192.855	1197.425
60	870.647	898.069	946.057	975.764	989.475
65	685.549	712.971	758.674	783.811	795.236
70	514.161	534.728	580.431	605.568	614.709
75	347.345	372.481	415.899	436.466	436.466
80	205.665	230.801	269.649	260.508	253.653
85	89.121	111.973	111.973	102.832	102.832
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1075.71	N.A.	15.10
0-30	2219.75	N.A.	31.30
0-40	3526.07	N.A.	49.70
0-60	5802.43	N.A.	81.70
0-80	6976.1	N.A.	98.20
0-90	7101.05	N.A.	100.00
10-90	6818.94	N.A.	96.00
20-40	2450.35	N.A.	34.50
20-50	3697.29	N.A.	52.10
40-70	3020.64	N.A.	42.50
60-80	1173.66	N.A.	16.50
70-80	429.39	N.A.	6.00
80-90	124.95	N.A.	1.80
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	7101.05	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	282.11
10-20	793.60
20-30	1144.04
30-40	1306.31
40-50	1246.93
50-60	1029.43
60-70	744.28
70-80	429.39
80-90	124.95
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	235	235	235	235	230	230	230	230	219	219	219	210	210	210	201	201	201	197
1	216	207	199	191	210	202	195	188	194	188	182	186	181	177	179	175	171	167
2	197	181	168	158	192	178	166	156	171	161	152	164	156	149	158	152	145	141
3	180	160	145	133	176	157	143	131	151	139	129	146	136	127	141	132	125	120
4	166	143	126	113	161	140	125	113	135	122	111	131	119	110	127	117	108	104
5	153	128	111	99	149	126	110	98	122	108	97	118	106	96	115	104	95	91
6	142	116	99	87	138	114	98	86	111	96	86	108	95	85	104	93	84	80
7	132	106	89	77	128	104	88	77	101	87	76	98	85	76	96	84	75	71
8	123	97	81	69	120	96	80	69	93	79	69	91	78	68	88	77	68	64
9	115	89	73	63	112	88	73	63	86	72	62	84	71	62	82	70	62	58
10	108	83	67	57	106	82	67	57	80	66	57	78	65	57	76	65	56	53

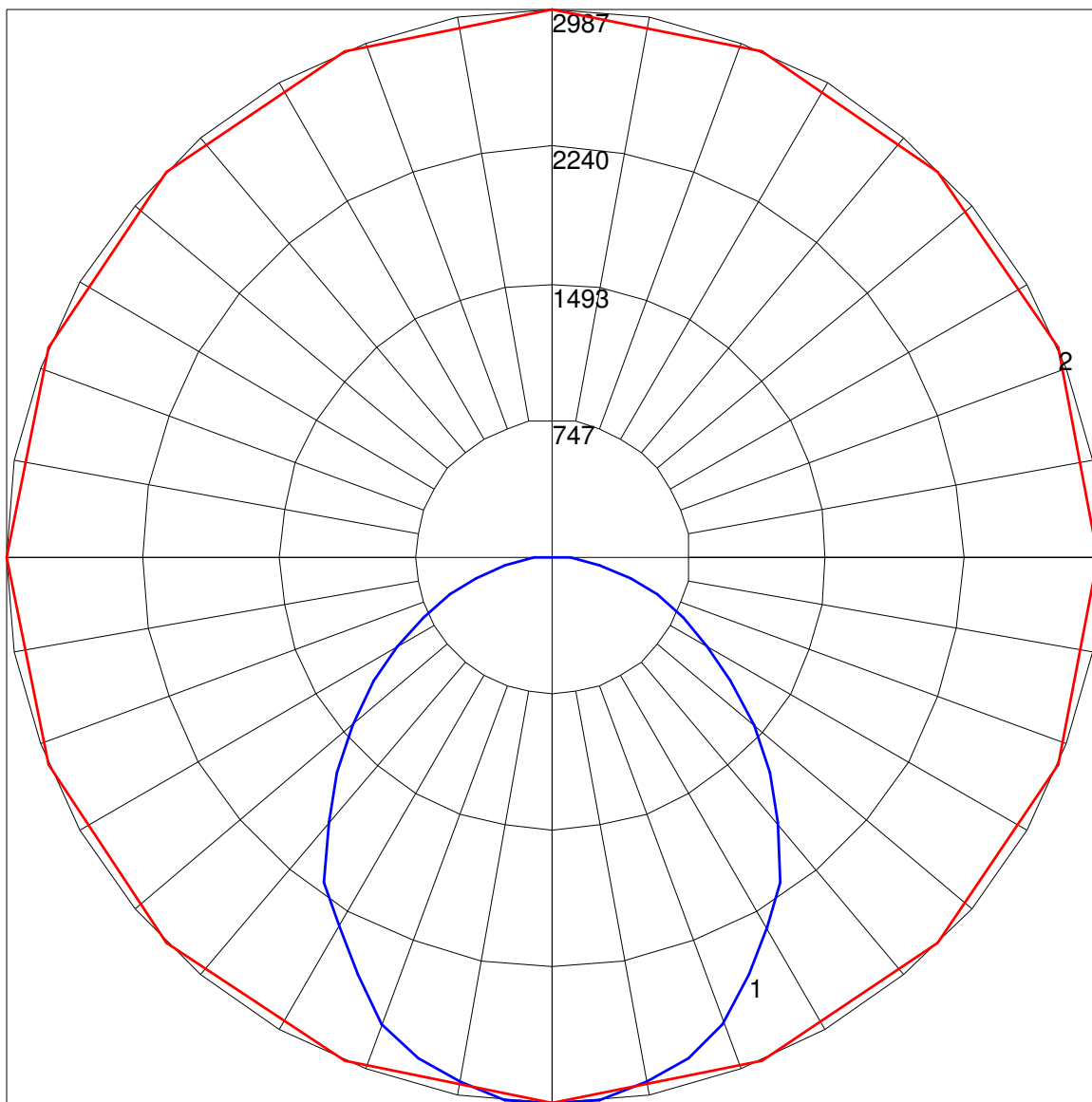
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UGR TABLE - CORRECTED

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	13.0	14.6	13.4	14.9	15.3	13.7	15.3	14.0	15.6	15.9
	3H	14.7	16.1	15.1	16.4	16.8	15.4	16.9	15.8	17.2	17.6
	4H	15.3	16.6	15.7	16.9	17.3	16.1	17.5	16.5	17.8	18.2
	6H	15.7	16.9	16.1	17.3	17.7	16.6	17.9	17.0	18.2	18.6
	8H	15.8	17.0	16.2	17.4	17.8	16.8	18.0	17.2	18.3	18.7
	12H	15.9	17.0	16.3	17.4	17.8	16.9	18.0	17.3	18.4	18.8
4H	2H	13.7	15.1	14.1	15.4	15.8	14.2	15.6	14.6	15.9	16.3
	3H	15.6	16.7	16.0	17.1	17.5	16.2	17.3	16.6	17.7	18.1
	4H	16.3	17.3	16.7	17.7	18.1	17.0	18.1	17.5	18.5	18.9
	6H	16.8	17.7	17.3	18.2	18.6	17.7	18.6	18.1	19.0	19.5
	8H	17.0	17.8	17.5	18.3	18.8	17.9	18.7	18.3	19.2	19.6
	12H	17.1	17.9	17.6	18.4	18.8	18.0	18.8	18.5	19.2	19.7
8H	4H	16.6	17.5	17.1	17.9	18.4	17.3	18.2	17.8	18.6	19.1
	6H	17.4	18.0	17.8	18.5	19.0	18.1	18.8	18.6	19.3	19.8
	8H	17.6	18.2	18.1	18.7	19.2	18.4	19.0	18.9	19.5	20.0
	12H	17.8	18.4	18.4	18.9	19.4	18.6	19.1	19.1	19.6	20.2
12H	4H	16.7	17.4	17.2	17.9	18.4	17.4	18.1	17.8	18.6	19.0
	6H	17.4	18.1	18.0	18.5	19.1	18.2	18.8	18.7	19.2	19.8
	8H	17.8	18.3	18.3	18.8	19.4	18.5	19.0	19.0	19.5	20.1

Maximum UGR = 20.2

POLAR GRAPH



Maximum Candela = 2986.707 Located At Horizontal Angle = 67.5, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)