



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-P31-8TW-AF-POE PR\_4000K.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20168.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 31-AUG-2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS

[LUMCAT] LT-24-P31-8TW-AF-POE PR 4000K

[LAMPCAT] HLM TUNABLE WHITE CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Office, Direct

[\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3238
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 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	1361	1443	1590
55	1249	1428	1656
65	1085	1451	1778
75	857	1554	2096
85	443	1763	1860

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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>
<b>0</b>	1064.283	1064.283	1064.283	1064.283	1064.283
<b>5</b>	1070.147	1058.419	1055.487	1055.487	1055.487
<b>10</b>	1051.382	1040.827	1040.827	1043.173	1042.587
<b>15</b>	1021.477	1012.681	1016.199	1022.650	1024.409
<b>20</b>	979.844	976.325	981.017	993.917	999.194
<b>25</b>	931.174	928.829	937.038	958.734	965.184
<b>30</b>	873.709	875.468	888.368	918.274	924.138
<b>35</b>	814.484	817.416	832.662	870.190	883.091
<b>40</b>	745.877	751.741	774.610	818.002	837.353
<b>45</b>	671.993	684.894	712.454	757.019	785.165
<b>50</b>	587.554	611.010	642.088	692.517	726.527
<b>55</b>	500.184	531.848	571.722	626.842	663.198
<b>60</b>	410.467	445.650	499.597	560.581	594.591
<b>65</b>	320.164	359.452	428.059	494.320	524.812
<b>70</b>	235.139	275.013	353.588	427.472	456.205
<b>75</b>	154.805	198.197	280.877	356.520	378.803
<b>80</b>	80.334	129.004	206.406	266.217	262.113
<b>85</b>	26.974	62.743	107.308	138.972	113.172
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	387.96	N.A.	12.00
0-30	822.88	N.A.	25.40
0-40	1350.07	N.A.	41.70
0-60	2422.61	N.A.	74.80
0-80	3133.95	N.A.	96.80
0-90	3238.15	N.A.	100.00
10-90	3137.62	N.A.	96.90
20-40	962.10	N.A.	29.70
20-50	1517.83	N.A.	46.90
40-70	1494.81	N.A.	46.20
60-80	711.34	N.A.	22.00
70-80	289.08	N.A.	8.90
80-90	104.20	N.A.	3.20
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	3238.15	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	100.53
10-20	287.43
20-30	434.91
30-40	527.19
40-50	555.72
50-60	516.82
60-70	422.26
70-80	289.08
80-90	104.20
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	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	35
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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**UGR TABLE - CORRECTED**

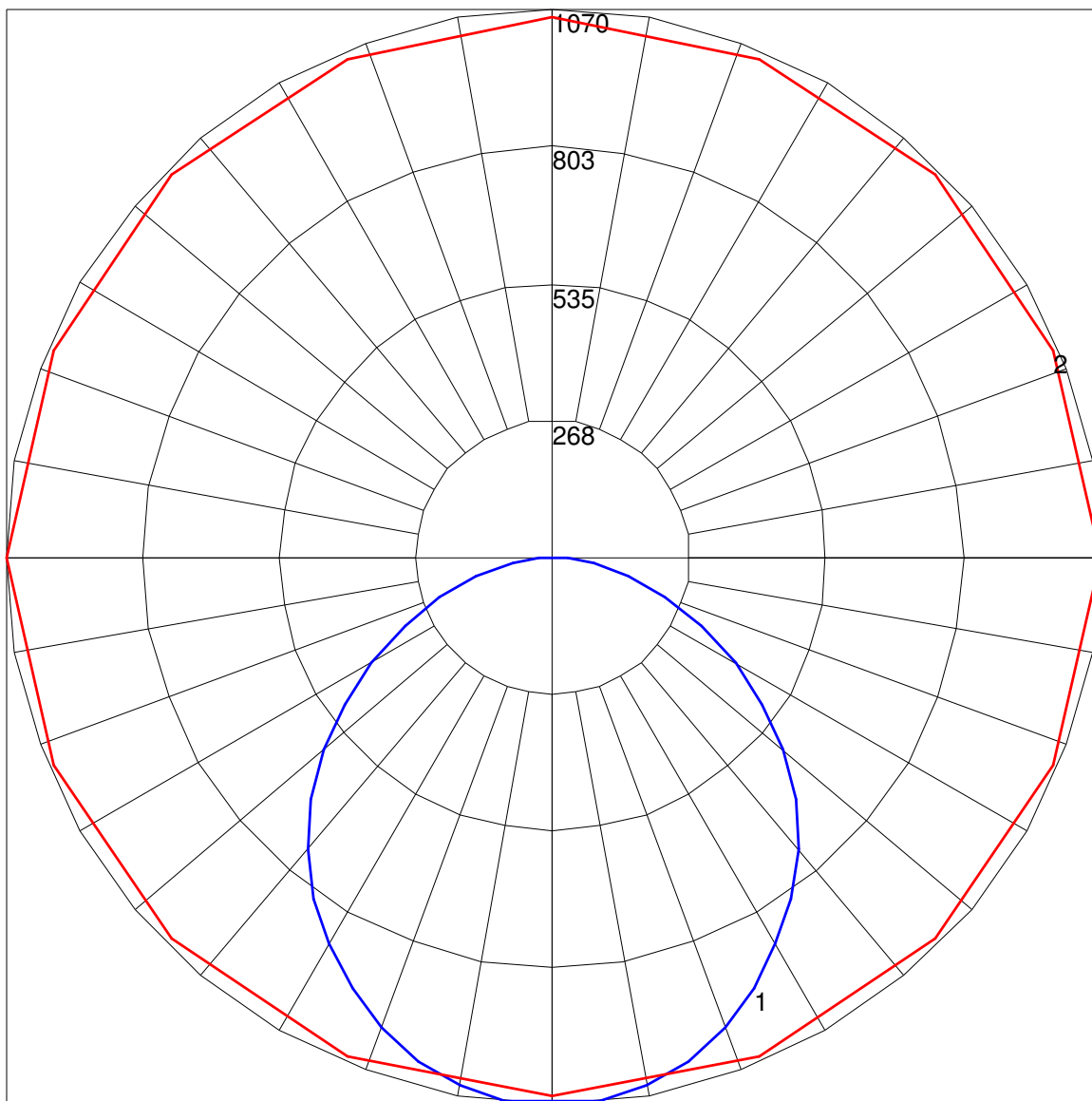
Reflectances

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	12.6	14.3	13.0	14.6	15.0	14.2	15.9	14.5	16.2	16.5
	3H	14.3	15.8	14.6	16.1	16.5	16.7	18.2	17.1	18.6	18.9
	4H	14.8	16.3	15.2	16.6	17.0	17.9	19.3	18.3	19.7	20.0
	6H	15.2	16.5	15.6	16.9	17.3	18.9	20.2	19.3	20.6	21.0
	8H	15.3	16.6	15.7	17.0	17.4	19.2	20.5	19.7	20.9	21.3
	12H	15.3	16.6	15.8	17.0	17.4	19.5	20.7	19.9	21.1	21.5
4H	2H	13.6	15.0	14.0	15.4	15.7	14.8	16.2	15.1	16.5	16.9
	3H	15.5	16.7	15.9	17.1	17.5	17.5	18.8	17.9	19.2	19.6
	4H	16.2	17.3	16.6	17.7	18.1	18.9	20.0	19.3	20.4	20.9
	6H	16.7	17.6	17.1	18.1	18.5	20.1	21.1	20.6	21.6	22.0
	8H	16.8	17.7	17.3	18.2	18.6	20.6	21.5	21.1	22.0	22.4
	12H	16.9	17.7	17.4	18.2	18.7	20.9	21.7	21.4	22.2	22.7
8H	4H	16.9	17.8	17.4	18.3	18.7	19.2	20.2	19.7	20.6	21.1
	6H	17.6	18.4	18.1	18.9	19.4	20.7	21.4	21.2	21.9	22.4
	8H	17.9	18.6	18.4	19.1	19.5	21.3	22.0	21.8	22.5	22.9
	12H	18.0	18.6	18.5	19.1	19.7	21.7	22.3	22.2	22.8	23.4
12H	4H	17.1	17.9	17.6	18.4	18.9	19.3	20.1	19.7	20.6	21.0
	6H	17.9	18.6	18.4	19.1	19.6	20.7	21.4	21.3	21.9	22.4
	8H	18.2	18.9	18.7	19.4	19.9	21.4	22.0	21.9	22.5	23.1

Maximum UGR = 23.4

POLAR GRAPH



Maximum Candela = 1070.147 Located At Horizontal Angle = 0, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)