H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-830-RA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19235.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE
[MORE] WHITE REFLECTOR w/RIBBED FROSTED ACRYLIC CENTER DIFFUSER
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L90-830-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor, Architectural, Office, Direct
[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8970
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	66.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
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	3846	4059	4266
55	3448	3774	4076
65	3030	3591	4080
75	2345	3602	4459
85	1416	4726	5415

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3431.496	3431.496	3431.496	3431.496	3431.496
5	3379.097	3374.440	3374.440	3362.796	3356.974
10	3368.618	3368.618	3374.440	3379.097	3379.097
15	3280.123	3284.781	3290.603	3298.754	3304.576
20	3063.544	3075.188	3089.161	3107.792	3113.614
25	2890.048	2900.528	2928.473	2952.926	2964.570
30	2532.576	2454.561	2773.608	2681.620	2667.647
35	2335.792	2357.916	2410.314	2454.561	2472.027
40	2078.459	2106.405	2164.625	2222.845	2244.969
45	1899.141	1923.594	2003.937	2078.459	2106.405
50	1649.959	1688.384	1776.879	1854.894	1881.675
55	1380.982	1422.900	1511.395	1599.890	1632.493
60	1125.978	1170.225	1270.364	1361.187	1394.955
65	894.261	952.482	1059.607	1165.567	1203.993
70	659.052	727.752	854.672	966.454	1004.880
75	423.843	508.844	650.901	763.848	805.767
80	232.881	343.499	506.515	617.134	650.901
85	86.166	196.784	287.608	323.704	329.526
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1243.91	N.A.	13.90
0-30	2578.00	N.A.	28.70
0-40	4081.88	N.A.	45.50
0-60	6970.96	N.A.	77.70
0-80	8701.38	N.A.	97.00
0-90	8969.62	N.A.	100.00
10-90	8647.06	N.A.	96.40
20-40	2837.97	N.A.	31.60
20-50	4371.88	N.A.	48.70
40-70	3935.21	N.A.	43.90
60-80	1730.42	N.A.	19.30
70-80	684.30	N.A.	7.60
80-90	268.24	N.A.	3.00
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	8969.62	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	322.56
10-20	921.35
20-30	1334.09
30-40	1503.88
40-50	1533.91
50-60	1355.17
60-70	1046.12
70-80	684.30
80-90	268.24
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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	85	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	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	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	46	40	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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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	16.0	17.6	16.3	17.9	18.2	17.0	18.6	17.3	18.9	19.2
	3H	17.6	19.1	18.0	19.4	19.8	19.1	20.6	19.5	21.0	21.3
	4H	18.2	19.6	18.6	19.9	20.3	20.1	21.5	20.5	21.9	22.3
	6H	18.5	19.9	19.0	20.2	20.6	21.2	22.5	21.6	22.8	23.2
	8H	18.7	19.9	19.1	20.3	20.7	21.6	22.8	22.0	23.2	23.6
	12H	18.7	19.9	19.2	20.3	20.7	21.9	23.1	22.4	23.5	23.9
4H	2H	16.7	18.1	17.1	18.5	18.9	17.5	18.9	17.9	19.3	19.6
	3H	18.6	19.8	19.1	20.2	20.6	20.0	21.2	20.4	21.6	22.0
	4H	19.3	20.4	19.8	20.8	21.3	21.1	22.2	21.6	22.6	23.1
	6H	19.9	20.8	20.3	21.3	21.7	22.4	23.3	22.8	23.8	24.2
	8H	20.0	20.9	20.5	21.4	21.8	22.9	23.8	23.4	24.2	24.7
	12H	20.2	21.0	20.7	21.4	21.9	23.3	24.1	23.8	24.6	25.1
8H	4H	19.9	20.8	20.4	21.3	21.7	21.5	22.4	21.9	22.8	23.3
	6H	20.7	21.4	21.2	21.9	22.4	22.9	23.7	23.4	24.2	24.6
	8H	21.0	21.6	21.5	22.1	22.6	23.6	24.3	24.1	24.8	25.2
	12H	21.2	21.8	21.7	22.3	22.8	24.2	24.7	24.7	25.2	25.8
12H	4H	20.1	20.9	20.6	21.4	21.8	21.5	22.3	22.0	22.8	23.3
	6H	20.9	21.6	21.5	22.1	22.6	23.0	23.7	23.6	24.2	24.7
	8H	21.3	21.9	21.8	22.4	23.0	23.8	24.3	24.3	24.8	25.4

Maximum UGR = 25.8

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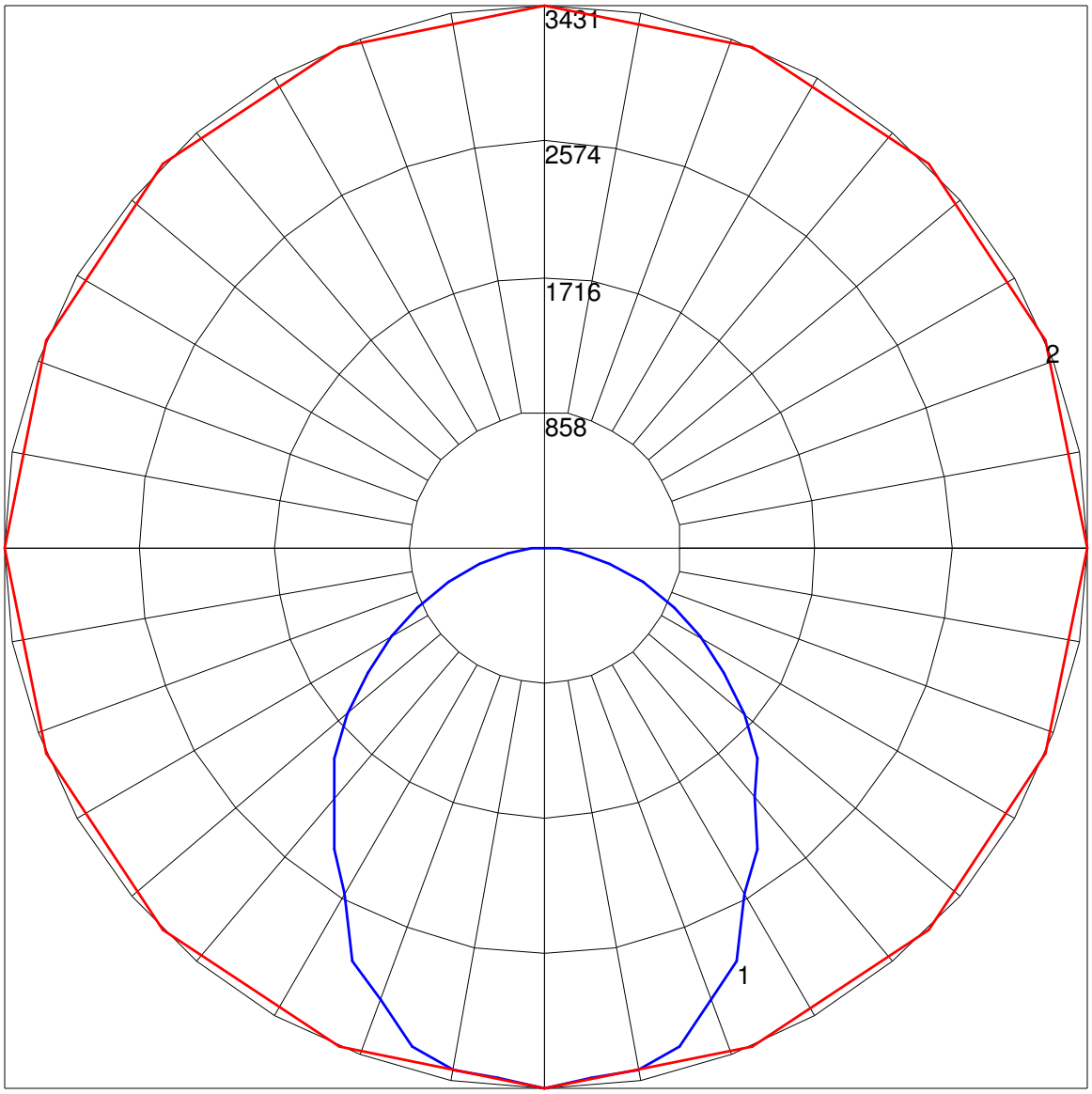
POLAR GRAPH



Maximum Candela = 3431.496 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.)

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