H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-850-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20790.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2 X 4 RECESSED LED LUMINAIRE WITH
[MORE] FROST SQUARED RIBBED LENS
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L90-850-SA-DIM-UNV
[LAMPCAT] 22 INCH LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9892
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	149
Total Luminaire Watts	66.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8839	8564	8501
55	7954	8001	8177
65	6950	7690	8424
75	5611	7765	9689
85	2600	8382	10127

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3852.271	3852.271	3852.271	3852.271	3852.271
5	3871.410	3828.879	3807.613	3754.449	3803.360
10	3796.980	3751.259	3723.614	3718.297	3725.740
15	3671.513	3626.855	3602.399	3593.893	3587.514
20	3504.578	3460.983	3420.578	3400.376	3403.566
25	3296.174	3260.023	3243.010	3189.846	3169.644
30	3052.683	3015.468	2977.190	2948.481	2932.532
35	2799.622	2765.597	2719.875	2680.534	2658.205
40	2509.346	2481.700	2433.853	2403.017	2384.942
45	2228.639	2196.741	2159.526	2142.513	2143.577
50	1931.983	1922.414	1882.009	1889.452	1899.022
55	1626.821	1626.821	1636.391	1661.910	1672.543
60	1342.925	1349.305	1392.899	1436.494	1463.076
65	1047.333	1085.611	1158.977	1234.470	1269.559
70	763.436	827.233	932.498	1033.510	1074.978
75	517.818	583.742	716.652	847.436	894.220
80	271.137	383.845	522.071	660.298	703.893
85	80.809	181.821	260.504	295.592	314.731
90	0.000	3.190	4.253	7.443	4.253

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1378.39	N.A.	13.90
0-30	2863.97	N.A.	29.00
0-40	4566.16	N.A.	46.20
0-60	7716.86	N.A.	78.00
0-80	9623.87	N.A.	97.30
0-90	9892.16	N.A.	100.00
10-90	9530.66	N.A.	96.30
20-40	3187.77	N.A.	32.20
20-50	4864.96	N.A.	49.20
40-70	4300.35	N.A.	43.50
60-80	1907.01	N.A.	19.30
70-80	757.36	N.A.	7.70
80-90	268.29	N.A.	2.70
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	9892.16	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	361.50
10-20	1016.89
20-30	1485.58
30-40	1702.19
40-50	1677.19
50-60	1473.51
60-70	1149.64
70-80	757.36
80-90	268.29
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	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	83	70	62	55	80	69	61	55	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	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	19.0	20.6	19.4	21.0	21.3	19.3	20.9	19.7	21.3	21.6
	3H	20.7	22.1	21.0	22.5	22.8	21.6	23.1	22.0	23.4	23.7
	4H	21.3	22.6	21.7	23.0	23.4	22.7	24.1	23.1	24.4	24.8
	6H	21.6	22.9	22.1	23.3	23.7	23.7	25.0	24.1	25.4	25.8
	8H	21.7	23.0	22.2	23.4	23.8	24.1	25.4	24.5	25.8	26.2
	12H	21.8	23.0	22.2	23.4	23.8	24.4	25.6	24.8	26.0	26.4
4H	2H	19.7	21.1	20.1	21.5	21.8	20.0	21.3	20.4	21.7	22.1
	3H	21.6	22.8	22.0	23.2	23.6	22.5	23.6	22.9	24.0	24.4
	4H	22.4	23.4	22.8	23.8	24.3	23.7	24.8	24.2	25.2	25.6
	6H	22.9	23.8	23.4	24.3	24.7	25.0	25.9	25.4	26.4	26.8
	8H	23.1	23.9	23.5	24.4	24.8	25.5	26.3	25.9	26.8	27.3
	12H	23.1	23.9	23.6	24.4	24.9	25.8	26.6	26.3	27.1	27.5
8H	4H	22.9	23.8	23.3	24.2	24.7	24.1	24.9	24.5	25.4	25.8
	6H	23.6	24.3	24.1	24.8	25.3	25.5	26.3	26.0	26.7	27.2
	8H	23.9	24.5	24.4	25.0	25.5	26.1	26.8	26.6	27.3	27.8
	12H	24.0	24.6	24.5	25.1	25.7	26.6	27.2	27.1	27.7	28.2
12H	4H	23.0	23.8	23.5	24.3	24.7	24.1	24.9	24.6	25.4	25.8
	6H	23.8	24.5	24.3	24.9	25.5	25.6	26.3	26.1	26.7	27.3
	8H	24.1	24.7	24.7	25.2	25.8	26.3	26.8	26.8	27.3	27.9

Maximum UGR = 28.2

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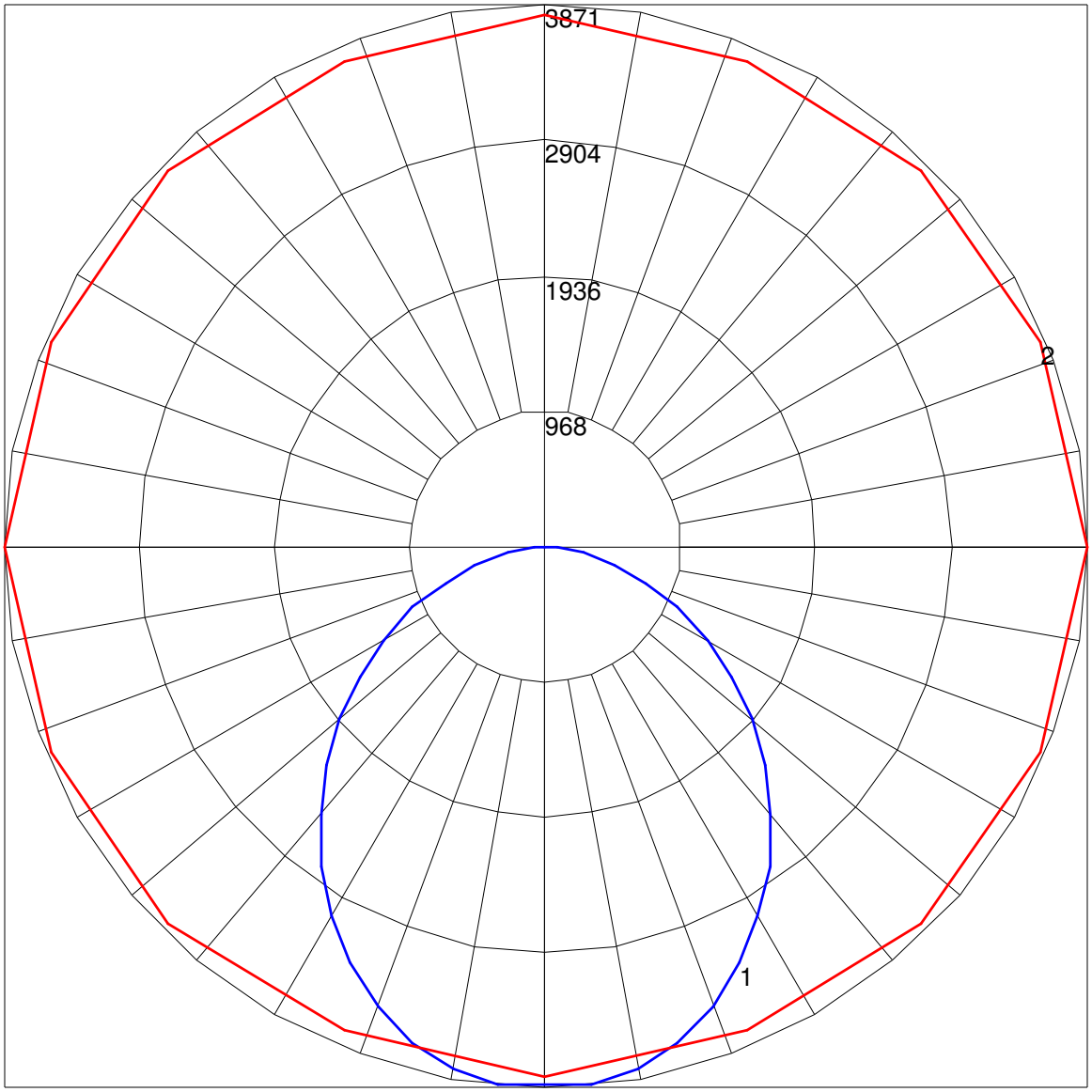
POLAR GRAPH



Maximum Candela = 3871.41 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.)

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