H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-830-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-L110-830-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	11305
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	83.7
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	10101	9788	9715
55	9090	9143	9345
65	7942	8789	9627
75	6412	8874	11073
85	2971	9579	11573

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4402.431	4402.431	4402.431	4402.431	4402.431
5	4424.303	4375.698	4351.395	4290.638	4346.534
10	4339.244	4286.993	4255.399	4249.324	4257.830
15	4195.858	4144.822	4116.874	4107.153	4099.862
20	4005.082	3955.261	3909.086	3885.999	3889.644
25	3766.915	3725.601	3706.159	3645.402	3622.315
30	3488.650	3446.120	3402.375	3369.567	3351.340
35	3199.448	3160.564	3108.313	3063.353	3037.835
40	2867.716	2836.123	2781.442	2746.203	2725.546
45	2546.921	2510.467	2467.937	2448.495	2449.710
50	2207.899	2196.962	2150.787	2159.293	2170.229
55	1859.155	1859.155	1870.091	1899.254	1911.406
60	1534.714	1542.005	1591.826	1641.646	1672.024
65	1196.907	1240.652	1324.496	1410.771	1450.870
70	872.466	945.374	1065.673	1181.110	1228.500
75	591.770	667.109	819.000	968.462	1021.928
80	309.859	438.663	596.631	754.598	804.419
85	92.350	207.788	297.708	337.807	359.680
90	0.000	3.645	4.861	8.506	4.861

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1575.24	N.A.	13.90
0-30	3272.99	N.A.	29.00
0-40	5218.27	N.A.	46.20
0-60	8818.94	N.A.	78.00
0-80	10998.3	N.A.	97.30
0-90	11304.9	N.A.	100.00
10-90	10891.78	N.A.	96.30
20-40	3643.03	N.A.	32.20
20-50	5559.75	N.A.	49.20
40-70	4914.5	N.A.	43.50
60-80	2179.35	N.A.	19.30
70-80	865.53	N.A.	7.70
80-90	306.60	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	11304.9	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	413.13
10-20	1162.12
20-30	1697.74
30-40	1945.28
40-50	1916.72
50-60	1683.95
60-70	1313.83
70-80	865.53
80-90	306.60
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	19.4	21.0	19.8	21.4	21.7	19.7	21.3	20.1	21.7	22.0
	3H	21.1	22.5	21.4	22.9	23.2	22.0	23.5	22.4	23.8	24.1
	4H	21.7	23.0	22.1	23.4	23.8	23.1	24.5	23.5	24.8	25.2
	6H	22.0	23.3	22.5	23.7	24.1	24.1	25.4	24.5	25.8	26.2
	8H	22.1	23.4	22.6	23.8	24.2	24.5	25.8	24.9	26.2	26.6
	12H	22.2	23.4	22.6	23.8	24.2	24.8	26.0	25.2	26.4	26.8
4H	2H	20.1	21.5	20.5	21.9	22.2	20.4	21.7	20.8	22.1	22.5
	3H	22.0	23.2	22.4	23.6	24.0	22.9	24.0	23.3	24.4	24.8
	4H	22.8	23.8	23.2	24.2	24.7	24.1	25.2	24.6	25.6	26.0
	6H	23.3	24.2	23.8	24.7	25.1	25.4	26.3	25.8	26.8	27.2
	8H	23.5	24.3	23.9	24.8	25.2	25.9	26.8	26.3	27.2	27.7
	12H	23.5	24.3	24.0	24.8	25.3	26.2	27.0	26.7	27.5	28.0
8H	4H	23.3	24.2	23.7	24.6	25.1	24.5	25.3	24.9	25.8	26.2
	6H	24.0	24.7	24.5	25.2	25.7	25.9	26.7	26.4	27.1	27.6
	8H	24.3	24.9	24.8	25.4	25.9	26.5	27.2	27.0	27.7	28.2
	12H	24.4	25.0	24.9	25.5	26.1	27.0	27.6	27.5	28.1	28.6
12H	4H	23.4	24.2	23.9	24.7	25.1	24.5	25.3	25.0	25.8	26.2
	6H	24.2	24.9	24.7	25.3	25.9	26.0	26.7	26.5	27.1	27.7
	8H	24.5	25.1	25.1	25.6	26.2	26.7	27.2	27.2	27.7	28.3

Maximum UGR = 28.6

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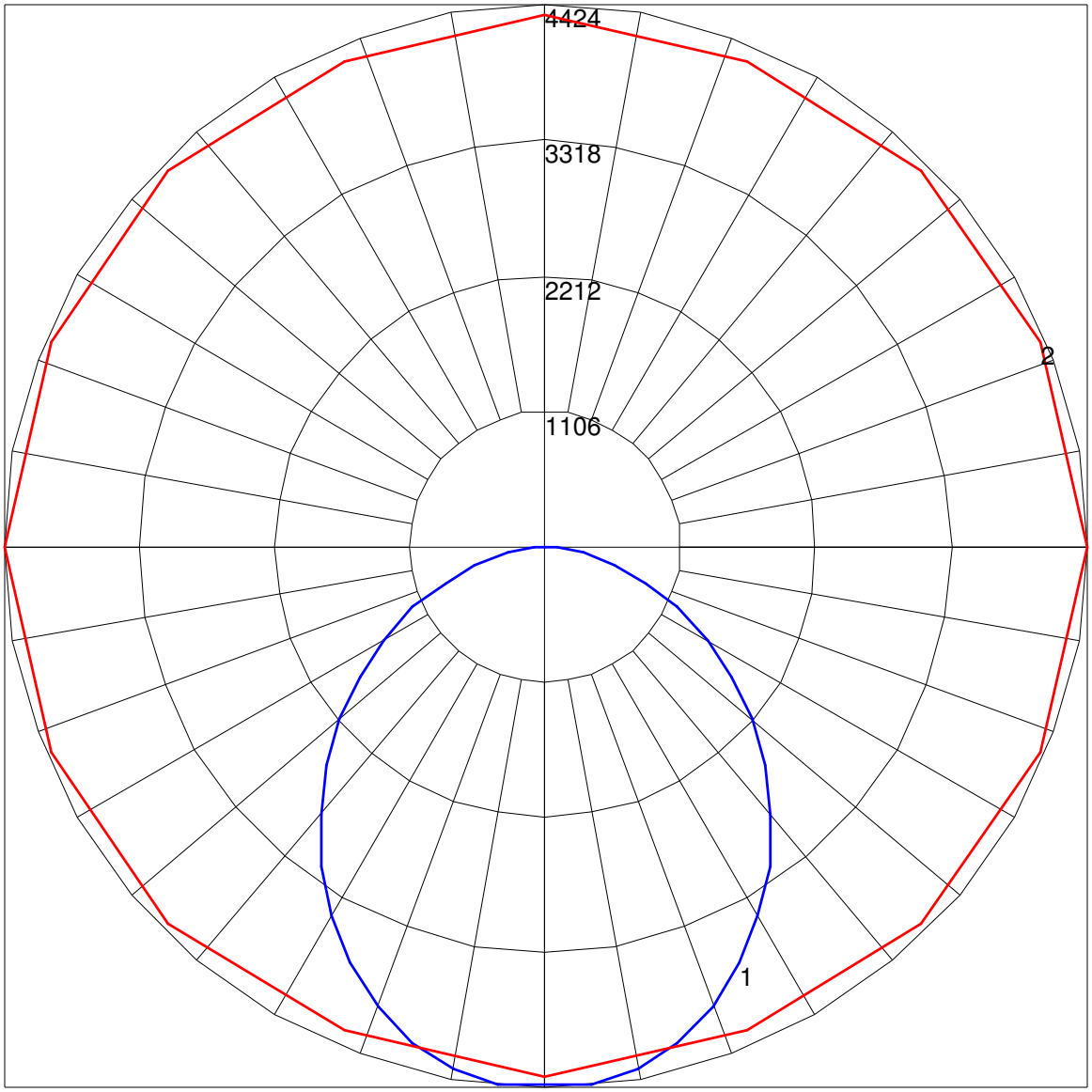
POLAR GRAPH



Maximum Candela = 4424.303 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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