H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-930-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-L110-930-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	9478
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
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	8468	8206	8145
55	7621	7666	7835
65	6659	7368	8071
75	5376	7440	9283
85	2491	8031	9703

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3690.928	3690.928	3690.928	3690.928	3690.928
5	3709.265	3668.515	3648.140	3597.203	3644.065
10	3637.953	3594.146	3567.659	3562.565	3569.696
15	3517.740	3474.953	3451.522	3443.372	3437.259
20	3357.797	3316.028	3277.316	3257.959	3261.016
25	3158.122	3123.484	3107.184	3056.247	3036.891
30	2924.828	2889.172	2852.497	2824.991	2809.710
35	2682.366	2649.766	2605.960	2568.266	2546.872
40	2404.248	2377.760	2331.916	2302.373	2285.054
45	2135.298	2104.735	2069.079	2052.779	2053.798
50	1851.067	1841.898	1803.186	1810.317	1819.486
55	1558.686	1558.686	1567.855	1592.305	1602.492
60	1286.680	1292.792	1334.561	1376.330	1401.799
65	1003.468	1040.143	1110.436	1182.768	1216.386
70	731.462	792.587	893.443	990.224	1029.955
75	496.131	559.293	686.637	811.943	856.768
80	259.781	367.768	500.206	632.643	674.412
85	77.425	174.206	249.594	283.212	301.550
90	0.000	3.056	4.075	7.131	4.075

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1320.66	N.A.	13.90
0-30	2744.02	N.A.	29.00
0-40	4374.92	N.A.	46.20
0-60	7393.66	N.A.	78.00
0-80	9220.8	N.A.	97.30
0-90	9477.85	N.A.	100.00
10-90	9131.49	N.A.	96.30
20-40	3054.26	N.A.	32.20
20-50	4661.21	N.A.	49.20
40-70	4120.24	N.A.	43.50
60-80	1827.14	N.A.	19.30
70-80	725.64	N.A.	7.70
80-90	257.05	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	9477.85	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	346.36
10-20	974.30
20-30	1423.36
30-40	1630.9
40-50	1606.95
50-60	1411.8
60-70	1101.49
70-80	725.64
80-90	257.05
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	82	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	18.8	20.4	19.2	20.8	21.1	19.1	20.7	19.5	21.1	21.4
	3H	20.5	21.9	20.8	22.3	22.6	21.4	22.9	21.8	23.2	23.5
	4H	21.1	22.4	21.5	22.8	23.2	22.5	23.9	22.9	24.2	24.6
	6H	21.4	22.7	21.9	23.1	23.5	23.5	24.8	23.9	25.2	25.6
	8H	21.5	22.8	22.0	23.2	23.6	23.9	25.2	24.3	25.6	26.0
	12H	21.6	22.8	22.0	23.2	23.6	24.2	25.4	24.6	25.8	26.2
4H	2H	19.5	20.9	19.9	21.3	21.6	19.8	21.1	20.2	21.5	21.9
	3H	21.4	22.6	21.8	23.0	23.4	22.3	23.4	22.7	23.8	24.2
	4H	22.2	23.2	22.6	23.6	24.1	23.5	24.6	24.0	25.0	25.4
	6H	22.7	23.6	23.2	24.1	24.5	24.8	25.7	25.2	26.2	26.6
	8H	22.9	23.7	23.3	24.2	24.6	25.3	26.2	25.7	26.6	27.1
	12H	22.9	23.7	23.4	24.2	24.7	25.6	26.4	26.1	26.9	27.4
8H	4H	22.7	23.6	23.1	24.0	24.5	23.9	24.7	24.3	25.2	25.6
	6H	23.4	24.1	23.9	24.6	25.1	25.3	26.1	25.8	26.5	27.0
	8H	23.7	24.3	24.2	24.8	25.3	25.9	26.6	26.4	27.1	27.6
	12H	23.8	24.4	24.3	24.9	25.5	26.4	27.0	26.9	27.5	28.0
12H	4H	22.8	23.6	23.3	24.1	24.5	23.9	24.7	24.4	25.2	25.6
	6H	23.6	24.3	24.1	24.7	25.3	25.4	26.1	25.9	26.5	27.1
	8H	23.9	24.5	24.5	25.0	25.6	26.1	26.6	26.6	27.1	27.7

Maximum UGR = 28.0

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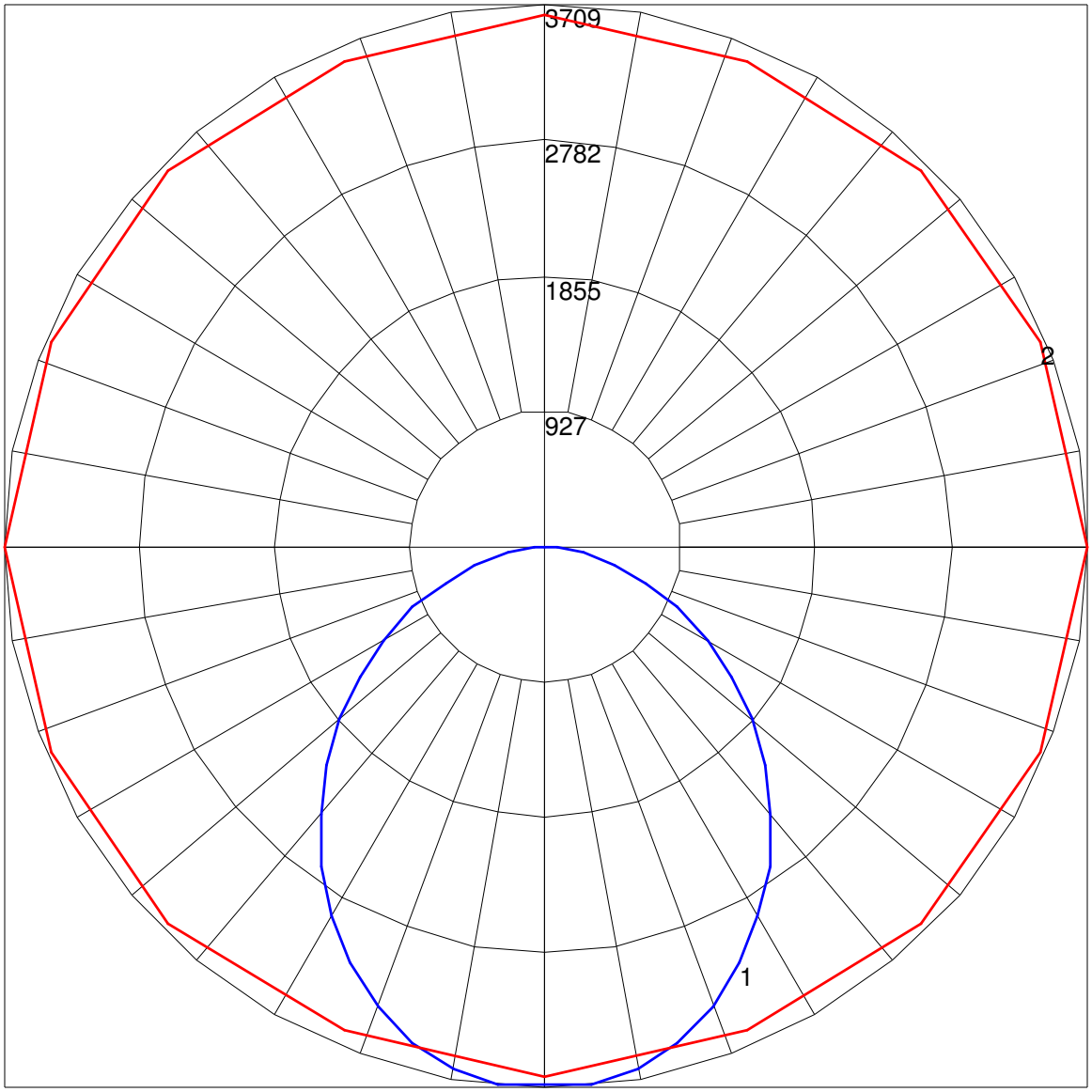
POLAR GRAPH



Maximum Candela = 3709.265 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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