H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-927-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-L110-927-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	9091
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	83.7
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	3898	4114	4324
55	3495	3825	4131
65	3071	3639	4135
75	2377	3650	4519
85	1435	4790	5488

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3477.834	3477.834	3477.834	3477.834	3477.834
5	3424.729	3420.008	3420.008	3408.207	3402.306
10	3414.107	3414.107	3420.008	3424.729	3424.729
15	3324.418	3329.138	3335.039	3343.300	3349.200
20	3104.914	3116.715	3130.877	3149.759	3155.660
25	2929.075	2939.696	2968.019	2992.802	3004.603
30	2566.776	2487.708	2811.063	2717.833	2703.671
35	2367.335	2389.757	2442.863	2487.708	2505.410
40	2106.527	2134.850	2193.856	2252.862	2275.285
45	1924.787	1949.570	2030.999	2106.527	2134.850
50	1672.240	1711.184	1800.874	1879.942	1907.085
55	1399.631	1442.115	1531.805	1621.495	1654.538
60	1141.183	1186.028	1287.519	1379.568	1413.792
65	906.338	965.344	1073.916	1181.307	1220.251
70	667.952	737.579	866.213	979.505	1018.450
75	429.566	515.716	659.691	774.163	816.648
80	236.025	348.137	513.355	625.467	659.691
85	87.329	199.441	291.491	328.075	333.976
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1260.71	N.A.	13.90
0-30	2612.81	N.A.	28.70
0-40	4137.00	N.A.	45.50
0-60	7065.1	N.A.	77.70
0-80	8818.89	N.A.	97.00
0-90	9090.75	N.A.	100.00
10-90	8763.83	N.A.	96.40
20-40	2876.29	N.A.	31.60
20-50	4430.92	N.A.	48.70
40-70	3988.35	N.A.	43.90
60-80	1753.79	N.A.	19.30
70-80	693.54	N.A.	7.60
80-90	271.86	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	9090.75	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	326.92
10-20	933.79
20-30	1352.1
30-40	1524.19
40-50	1554.63
50-60	1373.47
60-70	1060.25
70-80	693.54
80-90	271.86
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	17.7	16.4	18.0	18.3	17.1	18.7	17.4	19.0	19.3
	3H	17.7	19.2	18.1	19.5	19.9	19.2	20.7	19.6	21.1	21.4
	4H	18.3	19.7	18.7	20.0	20.4	20.2	21.6	20.6	22.0	22.4
	6H	18.6	20.0	19.1	20.3	20.7	21.3	22.6	21.7	22.9	23.3
	8H	18.8	20.0	19.2	20.4	20.8	21.7	22.9	22.1	23.3	23.7
	12H	18.8	20.0	19.3	20.4	20.8	22.0	23.2	22.5	23.6	24.0
4H	2H	16.8	18.2	17.2	18.6	19.0	17.6	19.0	18.0	19.4	19.7
	3H	18.7	19.9	19.2	20.3	20.7	20.1	21.3	20.5	21.7	22.0
	4H	19.4	20.5	19.9	20.9	21.4	21.2	22.3	21.7	22.7	23.2
	6H	20.0	20.9	20.4	21.4	21.8	22.5	23.4	22.9	23.9	24.3
	8H	20.1	21.0	20.6	21.5	21.9	23.0	23.9	23.5	24.3	24.8
	12H	20.3	21.1	20.8	21.5	22.0	23.4	24.2	23.9	24.7	25.2
8H	4H	20.0	20.9	20.5	21.4	21.8	21.6	22.5	22.0	22.9	23.4
	6H	20.8	21.5	21.3	22.0	22.5	23.0	23.8	23.5	24.3	24.7
	8H	21.1	21.7	21.6	22.2	22.7	23.7	24.4	24.2	24.9	25.3
	12H	21.3	21.9	21.8	22.4	22.9	24.3	24.8	24.8	25.3	25.9
12H	4H	20.2	21.0	20.7	21.5	21.9	21.6	22.4	22.1	22.9	23.4
	6H	21.0	21.7	21.6	22.2	22.7	23.1	23.8	23.7	24.3	24.8
	8H	21.4	22.0	21.9	22.5	23.1	23.9	24.4	24.4	24.9	25.5

Maximum UGR = 25.9

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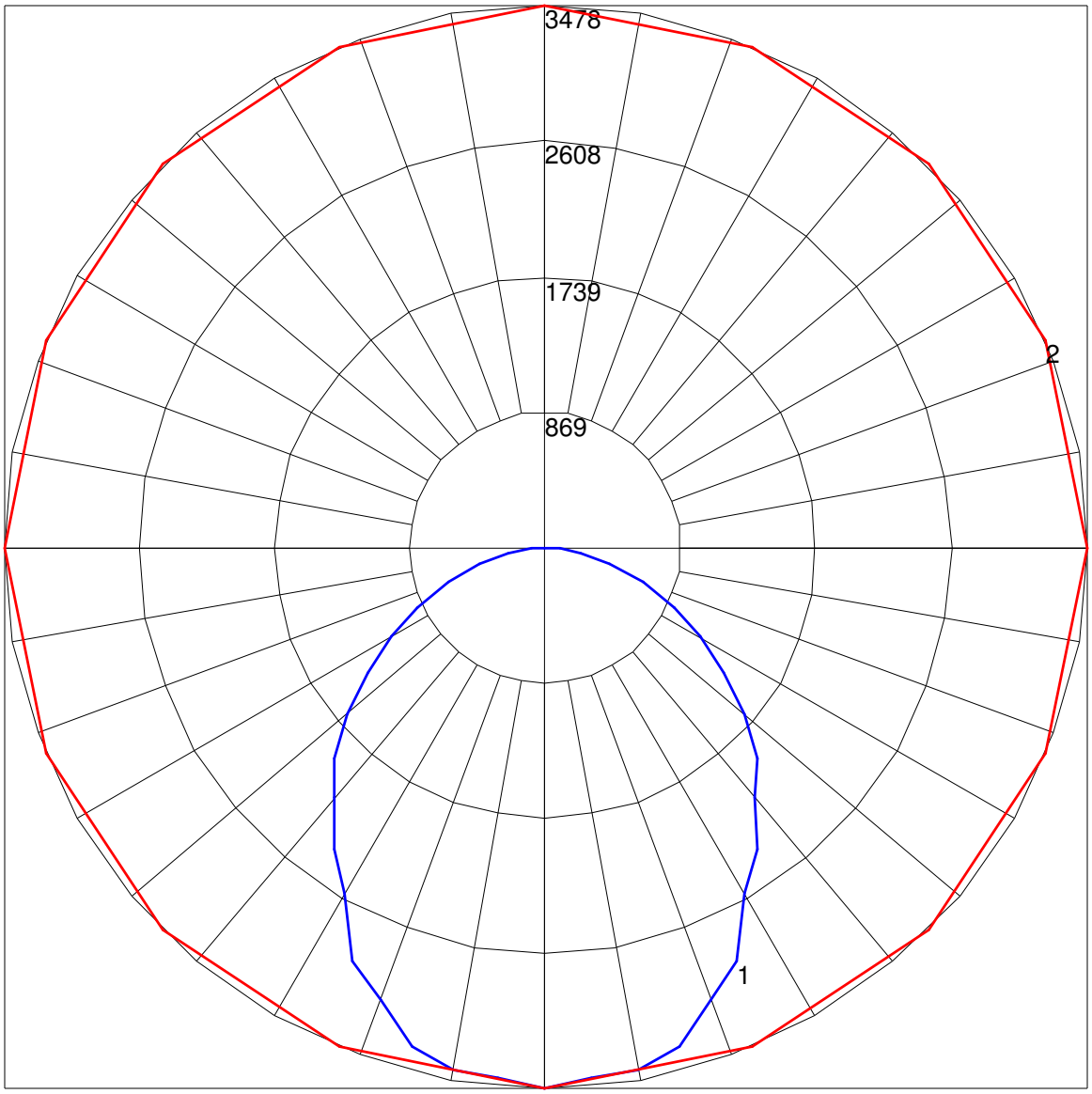
POLAR GRAPH



Maximum Candela = 3477.834 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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