H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-840-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-L110-840-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	11419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	136
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	4897	5167	5431
55	4390	4804	5189
65	3858	4571	5194
75	2986	4585	5676
85	1802	6016	6893

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4368.500	4368.500	4368.500	4368.500	4368.500
5	4301.794	4295.865	4295.865	4281.041	4273.629
10	4288.453	4288.453	4295.865	4301.794	4301.794
15	4175.794	4181.723	4189.135	4199.512	4206.923
20	3900.076	3914.900	3932.688	3956.405	3963.817
25	3679.205	3692.546	3728.123	3759.252	3774.076
30	3224.122	3124.804	3530.970	3413.864	3396.075
35	2973.604	3001.769	3068.475	3124.804	3147.040
40	2646.004	2681.580	2755.698	2829.816	2857.980
45	2417.721	2448.850	2551.133	2646.004	2681.580
50	2100.497	2149.415	2262.074	2361.392	2395.486
55	1758.073	1811.438	1924.097	2036.756	2078.262
60	1433.437	1489.767	1617.249	1732.873	1775.861
65	1138.449	1212.566	1348.943	1483.837	1532.755
70	839.013	926.472	1088.049	1230.355	1279.272
75	539.577	647.789	828.636	972.425	1025.790
80	296.471	437.295	644.824	785.648	828.636
85	109.694	250.518	366.142	412.095	419.506
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1583.57	N.A.	13.90
0-30	3281.95	N.A.	28.70
0-40	5196.47	N.A.	45.50
0-60	8874.45	N.A.	77.70
0-80	11077.38	N.A.	97.00
0-90	11418.87	N.A.	100.00
10-90	11008.23	N.A.	96.40
20-40	3612.9	N.A.	31.60
20-50	5565.67	N.A.	48.70
40-70	5009.75	N.A.	43.90
60-80	2202.93	N.A.	19.30
70-80	871.16	N.A.	7.60
80-90	341.49	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	11418.87	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	410.64
10-20	1172.93
20-30	1698.37
30-40	1914.53
40-50	1952.76
50-60	1725.22
60-70	1331.77
70-80	871.16
80-90	341.49
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	16.8	18.5	17.2	18.8	19.1	17.9	19.5	18.2	19.8	20.1
	3H	18.5	20.0	18.9	20.3	20.7	20.0	21.5	20.4	21.9	22.2
	4H	19.1	20.5	19.5	20.8	21.2	21.0	22.4	21.4	22.8	23.2
	6H	19.4	20.8	19.9	21.1	21.5	22.1	23.4	22.5	23.7	24.1
	8H	19.6	20.8	20.0	21.2	21.6	22.5	23.7	22.9	24.1	24.5
	12H	19.6	20.8	20.1	21.2	21.6	22.8	24.0	23.3	24.4	24.8
4H	2H	17.6	19.0	18.0	19.4	19.8	18.4	19.8	18.8	20.2	20.5
	3H	19.5	20.7	20.0	21.1	21.5	20.9	22.1	21.3	22.5	22.9
	4H	20.2	21.3	20.7	21.7	22.2	22.0	23.1	22.5	23.5	24.0
	6H	20.8	21.7	21.2	22.2	22.6	23.3	24.2	23.7	24.7	25.1
	8H	20.9	21.8	21.4	22.3	22.7	23.8	24.7	24.3	25.1	25.6
	12H	21.1	21.9	21.6	22.3	22.8	24.2	25.0	24.7	25.5	26.0
8H	4H	20.8	21.7	21.3	22.2	22.6	22.4	23.3	22.8	23.7	24.2
	6H	21.6	22.3	22.1	22.8	23.3	23.8	24.6	24.3	25.1	25.5
	8H	21.9	22.5	22.4	23.0	23.5	24.5	25.2	25.0	25.7	26.1
	12H	22.1	22.7	22.6	23.2	23.7	25.1	25.6	25.6	26.1	26.7
12H	4H	21.0	21.8	21.5	22.3	22.7	22.4	23.2	22.9	23.7	24.2
	6H	21.8	22.5	22.4	23.0	23.5	23.9	24.6	24.5	25.1	25.6
	8H	22.2	22.8	22.7	23.3	23.9	24.7	25.2	25.2	25.7	26.3

Maximum UGR = 26.7

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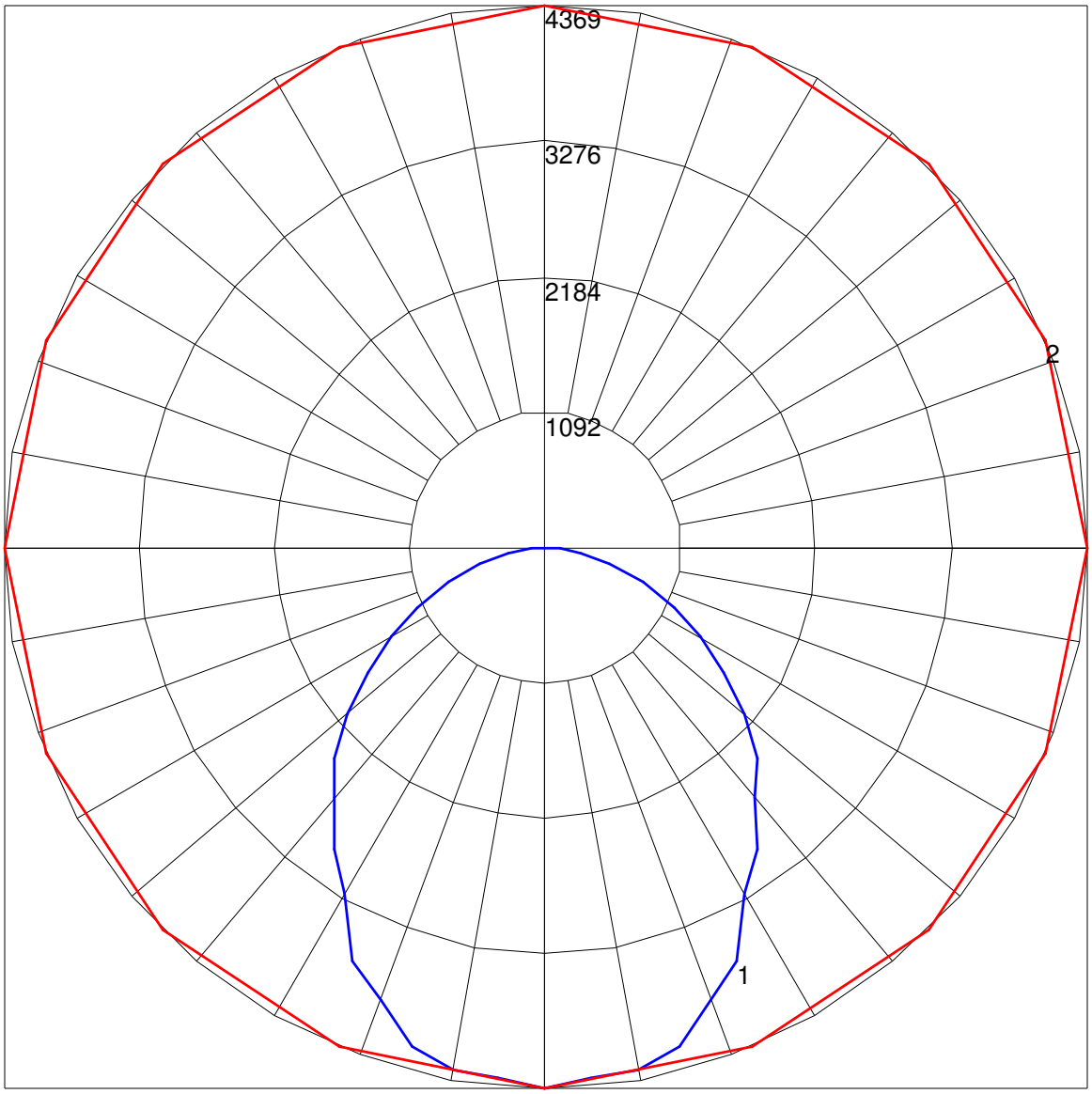
POLAR GRAPH



Maximum Candela = 4368.5 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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