H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-935-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-L110-935-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	9312
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
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	3993	4214	4429
55	3580	3918	4232
65	3146	3728	4236
75	2435	3739	4629
85	1470	4907	5622

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3562.661	3562.661	3562.661	3562.661	3562.661
5	3508.260	3503.424	3503.424	3491.335	3485.290
10	3497.379	3497.379	3503.424	3508.260	3508.260
15	3405.502	3410.338	3416.382	3424.845	3430.889
20	3180.645	3192.734	3207.241	3226.583	3232.628
25	3000.517	3011.397	3040.411	3065.798	3077.887
30	2629.381	2548.384	2879.626	2784.122	2769.615
35	2425.075	2448.045	2502.446	2548.384	2566.518
40	2157.906	2186.920	2247.365	2307.811	2330.780
45	1971.734	1997.121	2080.536	2157.906	2186.920
50	1713.027	1752.921	1844.798	1925.795	1953.600
55	1433.768	1477.289	1569.166	1661.044	1694.893
60	1169.017	1214.955	1318.922	1413.217	1448.275
65	928.444	988.889	1100.109	1210.120	1250.014
70	684.244	755.569	887.341	1003.396	1043.290
75	440.044	528.294	675.781	793.046	836.566
80	241.782	356.629	525.876	640.723	675.781
85	89.459	204.306	298.601	336.077	342.122
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1291.46	N.A.	13.90
0-30	2676.54	N.A.	28.70
0-40	4237.9	N.A.	45.50
0-60	7237.42	N.A.	77.70
0-80	9033.98	N.A.	97.00
0-90	9312.48	N.A.	100.00
10-90	8977.59	N.A.	96.40
20-40	2946.44	N.A.	31.60
20-50	4538.99	N.A.	48.70
40-70	4085.62	N.A.	43.90
60-80	1796.56	N.A.	19.30
70-80	710.46	N.A.	7.60
80-90	278.49	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	9312.48	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	334.89
10-20	956.57
20-30	1385.08
30-40	1561.36
40-50	1592.55
50-60	1406.97
60-70	1086.11
70-80	710.46
80-90	278.49
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	16.2	17.8	16.5	18.1	18.4	17.2	18.8	17.5	19.1	19.4
	3H	17.8	19.3	18.2	19.6	20.0	19.3	20.8	19.7	21.2	21.5
	4H	18.4	19.8	18.8	20.1	20.5	20.3	21.7	20.7	22.1	22.5
	6H	18.7	20.1	19.2	20.4	20.8	21.4	22.7	21.8	23.0	23.4
	8H	18.9	20.1	19.3	20.5	20.9	21.8	23.0	22.2	23.4	23.8
	12H	18.9	20.1	19.4	20.5	20.9	22.1	23.3	22.6	23.7	24.1
4H	2H	16.9	18.3	17.3	18.7	19.1	17.7	19.1	18.1	19.5	19.8
	3H	18.8	20.0	19.3	20.4	20.8	20.2	21.4	20.6	21.8	22.2
	4H	19.5	20.6	20.0	21.0	21.5	21.3	22.4	21.8	22.8	23.3
	6H	20.1	21.0	20.5	21.5	21.9	22.6	23.5	23.0	24.0	24.4
	8H	20.2	21.1	20.7	21.6	22.0	23.1	24.0	23.6	24.4	24.9
	12H	20.4	21.2	20.9	21.6	22.1	23.5	24.3	24.0	24.8	25.3
8H	4H	20.1	21.0	20.6	21.5	21.9	21.7	22.6	22.1	23.0	23.5
	6H	20.9	21.6	21.4	22.1	22.6	23.1	23.9	23.6	24.4	24.8
	8H	21.2	21.8	21.7	22.3	22.8	23.8	24.5	24.3	25.0	25.4
	12H	21.4	22.0	21.9	22.5	23.0	24.4	24.9	24.9	25.4	26.0
12H	4H	20.3	21.1	20.8	21.6	22.0	21.7	22.5	22.2	23.0	23.5
	6H	21.1	21.8	21.7	22.3	22.8	23.2	23.9	23.8	24.4	24.9
	8H	21.5	22.1	22.0	22.6	23.2	24.0	24.5	24.5	25.0	25.6

Maximum UGR = 26.0

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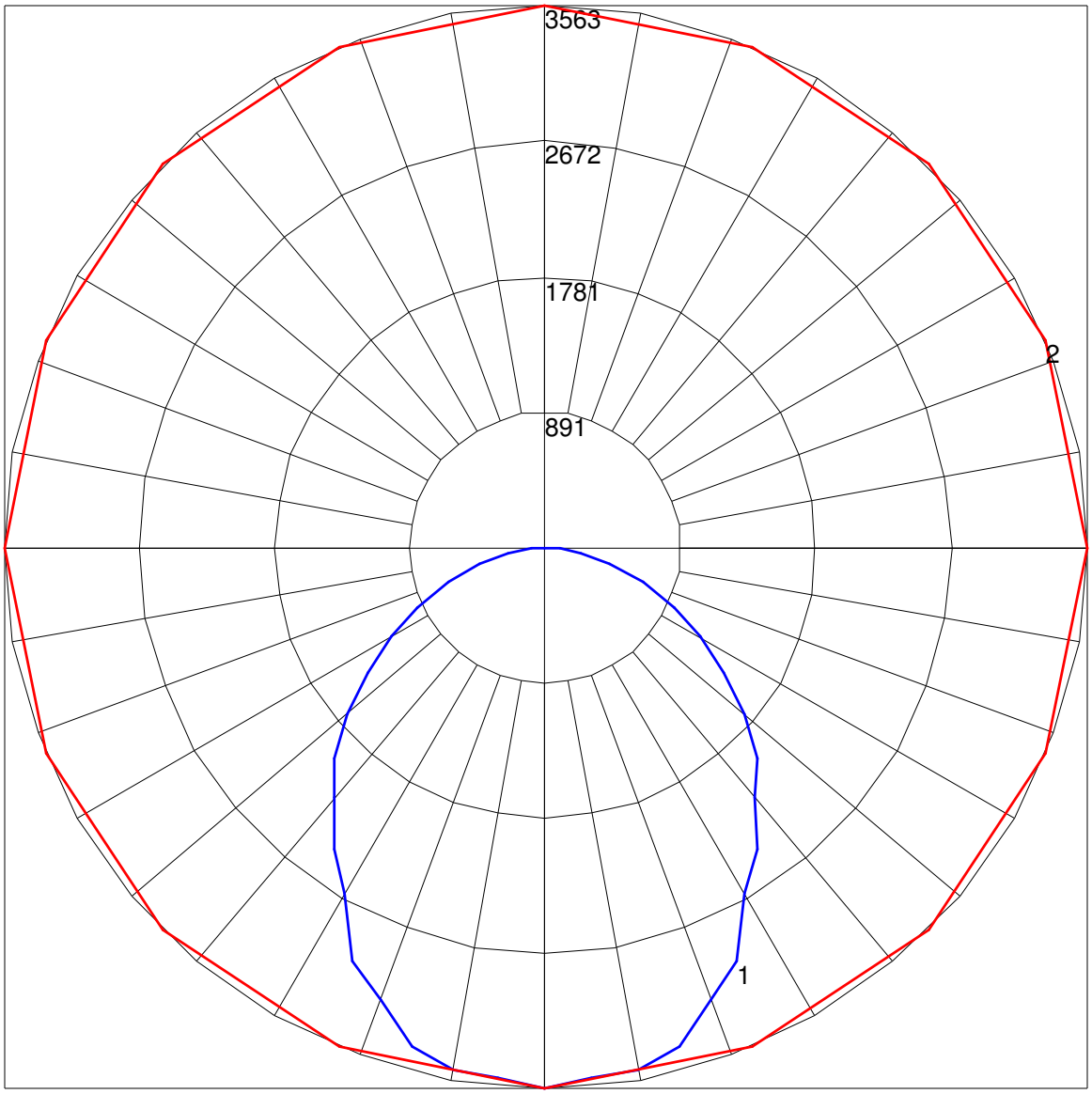
POLAR GRAPH



Maximum Candela = 3562.661 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.)