H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-950-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-L110-950-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	9978
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
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	4279	4515	4746
55	3836	4198	4534
65	3371	3994	4539
75	2609	4006	4960
85	1575	5257	6023

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3817.137	3817.137	3817.137	3817.137	3817.137
5	3758.850	3753.669	3753.669	3740.717	3734.240
10	3747.193	3747.193	3753.669	3758.850	3758.850
15	3648.753	3653.934	3660.410	3669.477	3675.953
20	3407.834	3420.787	3436.330	3457.054	3463.531
25	3214.840	3226.498	3257.584	3284.784	3297.737
30	2817.195	2730.412	3085.314	2982.988	2967.445
35	2598.296	2622.906	2681.192	2730.412	2749.841
40	2312.043	2343.129	2407.892	2472.655	2497.265
45	2112.572	2139.773	2229.146	2312.043	2343.129
50	1835.386	1878.130	1976.570	2063.352	2093.143
55	1536.181	1582.810	1681.250	1779.690	1815.957
60	1252.518	1301.738	1413.131	1514.161	1551.724
65	994.761	1059.524	1178.688	1296.557	1339.301
70	733.118	809.539	950.722	1075.067	1117.811
75	471.475	566.029	724.051	849.692	896.321
80	259.052	382.102	563.439	686.489	724.051
85	95.849	218.899	319.930	360.083	366.559
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1383.71	N.A.	13.90
0-30	2867.72	N.A.	28.70
0-40	4540.61	N.A.	45.50
0-60	7754.38	N.A.	77.70
0-80	9679.27	N.A.	97.00
0-90	9977.66	N.A.	100.00
10-90	9618.84	N.A.	96.40
20-40	3156.9	N.A.	31.60
20-50	4863.2	N.A.	48.70
40-70	4377.46	N.A.	43.90
60-80	1924.89	N.A.	19.30
70-80	761.20	N.A.	7.60
80-90	298.39	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	9977.66	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	358.81
10-20	1024.89
20-30	1484.01
30-40	1672.89
40-50	1706.3
50-60	1507.47
60-70	1163.69
70-80	761.20
80-90	298.39
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	16.3	18.0	16.7	18.3	18.6	17.4	19.0	17.7	19.3	19.6
	3H	18.0	19.5	18.4	19.8	20.2	19.5	21.0	19.9	21.4	21.7
	4H	18.6	20.0	19.0	20.3	20.7	20.5	21.9	20.9	22.3	22.7
	6H	18.9	20.3	19.4	20.6	21.0	21.6	22.9	22.0	23.2	23.6
	8H	19.1	20.3	19.5	20.7	21.1	22.0	23.2	22.4	23.6	24.0
	12H	19.1	20.3	19.6	20.7	21.1	22.3	23.5	22.8	23.9	24.3
4H	2H	17.1	18.5	17.5	18.9	19.3	17.9	19.3	18.3	19.7	20.0
	3H	19.0	20.2	19.5	20.6	21.0	20.4	21.6	20.8	22.0	22.3
	4H	19.7	20.8	20.2	21.2	21.7	21.5	22.6	22.0	23.0	23.5
	6H	20.3	21.2	20.7	21.7	22.1	22.8	23.7	23.2	24.2	24.6
	8H	20.4	21.3	20.9	21.8	22.2	23.3	24.2	23.8	24.6	25.1
	12H	20.6	21.4	21.1	21.8	22.3	23.7	24.5	24.2	25.0	25.5
8H	4H	20.3	21.2	20.8	21.7	22.1	21.9	22.8	22.3	23.2	23.7
	6H	21.1	21.8	21.6	22.3	22.8	23.3	24.1	23.8	24.6	25.0
	8H	21.4	22.0	21.9	22.5	23.0	24.0	24.7	24.5	25.2	25.6
	12H	21.6	22.2	22.1	22.7	23.2	24.6	25.1	25.1	25.6	26.2
12H	4H	20.5	21.3	21.0	21.8	22.2	21.9	22.7	22.4	23.2	23.7
	6H	21.3	22.0	21.9	22.5	23.0	23.4	24.1	24.0	24.6	25.1
	8H	21.7	22.3	22.2	22.8	23.4	24.2	24.7	24.7	25.2	25.8

Maximum UGR = 26.2

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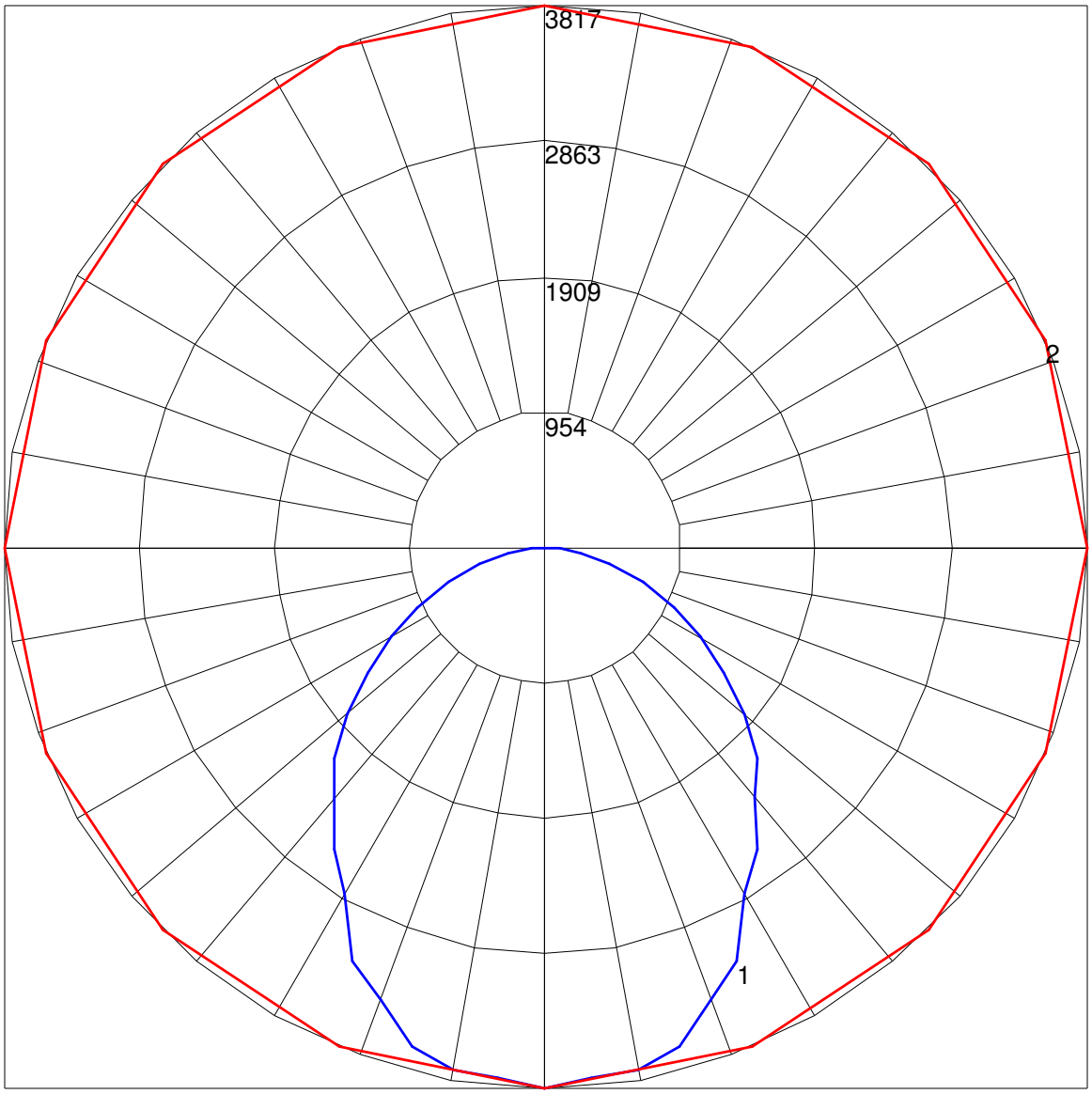
POLAR GRAPH



Maximum Candela = 3817.137 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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