H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-940-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-L110-940-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	9534
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
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	4089	4314	4535
55	3665	4011	4333
65	3221	3817	4337
75	2493	3828	4739
85	1505	5023	5756

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3647.484	3647.484	3647.484	3647.484	3647.484
5	3591.788	3586.837	3586.837	3574.460	3568.272
10	3580.649	3580.649	3586.837	3591.788	3591.788
15	3486.584	3491.535	3497.723	3506.387	3512.576
20	3256.373	3268.750	3283.602	3303.405	3309.594
25	3071.957	3083.096	3112.800	3138.792	3151.169
30	2691.985	2609.059	2948.187	2850.409	2835.557
35	2482.814	2506.330	2562.027	2609.059	2627.624
40	2209.284	2238.988	2300.873	2362.758	2386.274
45	2018.679	2044.671	2130.071	2209.284	2238.988
50	1753.812	1794.656	1888.721	1971.647	2000.114
55	1467.905	1512.462	1606.527	1700.592	1735.247
60	1196.850	1243.882	1350.324	1446.864	1482.757
65	950.549	1012.434	1126.302	1238.932	1279.776
70	700.535	773.559	908.467	1027.286	1068.130
75	450.521	540.872	691.871	811.927	856.484
80	247.539	365.120	538.397	655.978	691.871
85	91.589	209.170	305.710	344.079	350.267
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1322.21	N.A.	13.90
0-30	2740.26	N.A.	28.70
0-40	4338.8	N.A.	45.50
0-60	7409.74	N.A.	77.70
0-80	9249.08	N.A.	97.00
0-90	9534.2	N.A.	100.00
10-90	9191.33	N.A.	96.40
20-40	3016.6	N.A.	31.60
20-50	4647.06	N.A.	48.70
40-70	4182.9	N.A.	43.90
60-80	1839.34	N.A.	19.30
70-80	727.37	N.A.	7.60
80-90	285.12	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	9534.2	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	342.86
10-20	979.34
20-30	1418.06
30-40	1598.54
40-50	1630.46
50-60	1440.47
60-70	1111.97
70-80	727.37
80-90	285.12
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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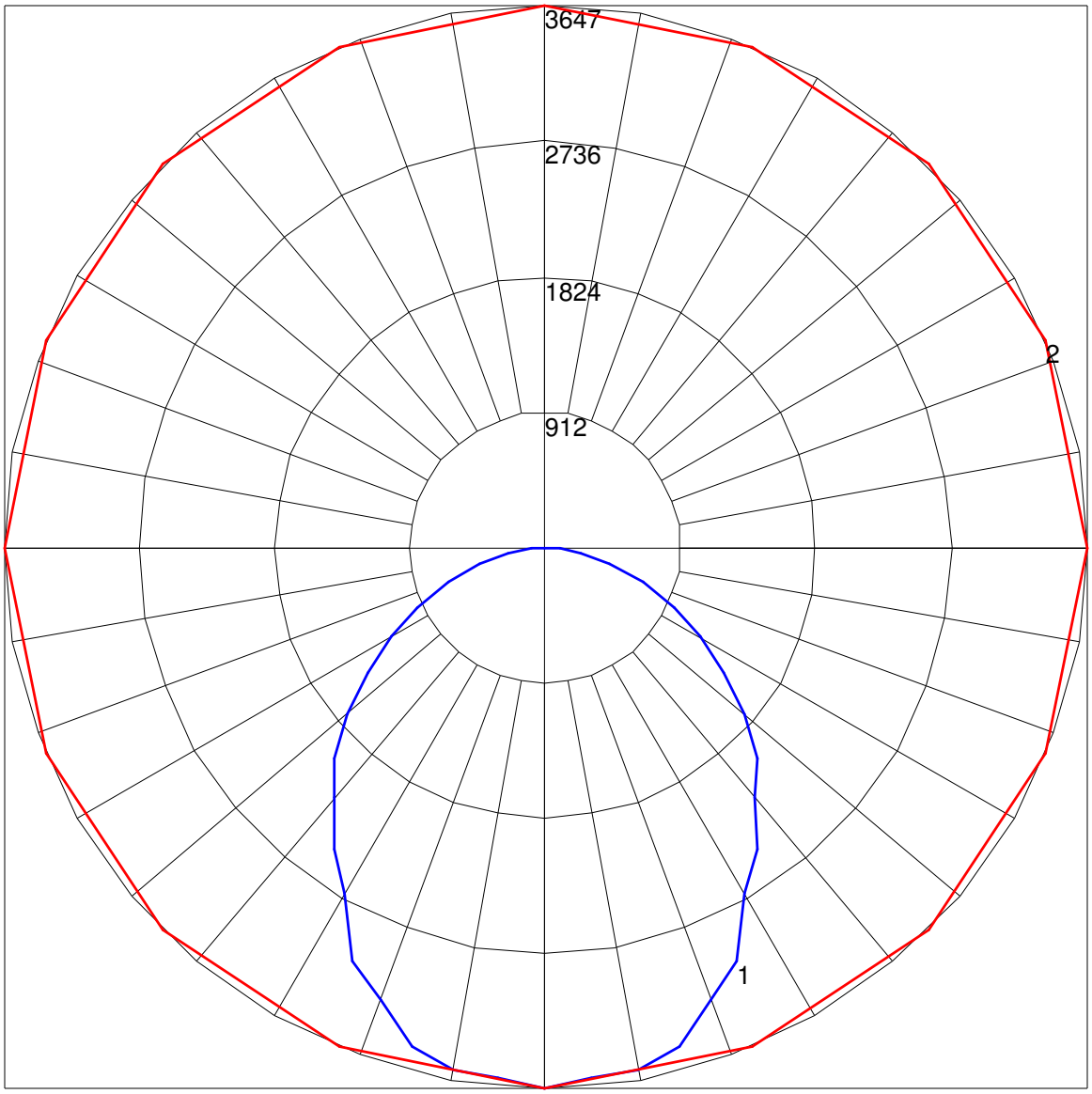
POLAR GRAPH



Maximum Candela = 3647.484 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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