H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-927-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20790.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2 X 4 RECESSED LED LUMINAIRE WITH
[MORE] FROST SQUARED RIBBED LENS
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L110-927-SA-DIM-UNV
[LAMPCAT] 22 INCH LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9364
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	83.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8366	8107	8047
55	7529	7573	7740
65	6578	7280	7974
75	5311	7350	9171
85	2461	7934	9586

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3646.459	3646.459	3646.459	3646.459	3646.459
5	3664.575	3624.316	3604.187	3553.863	3600.161
10	3594.122	3550.844	3524.675	3519.643	3526.688
15	3475.358	3433.086	3409.937	3401.885	3395.847
20	3317.342	3276.076	3237.830	3218.707	3221.726
25	3120.072	3085.852	3069.749	3019.425	3000.302
30	2889.590	2854.363	2818.130	2790.955	2775.858
35	2650.049	2617.841	2574.563	2537.323	2516.187
40	2375.281	2349.113	2303.821	2274.633	2257.523
45	2109.572	2079.377	2044.151	2028.047	2029.054
50	1828.765	1819.707	1781.461	1788.506	1797.564
55	1539.907	1539.907	1548.965	1573.120	1583.185
60	1271.178	1277.217	1318.482	1359.748	1384.910
65	991.378	1027.611	1097.058	1168.517	1201.731
70	722.649	783.038	882.679	978.294	1017.546
75	490.153	552.555	678.364	802.161	846.445
80	256.651	363.337	494.179	625.021	666.286
85	76.492	172.107	246.586	279.800	297.917
90	0.000	3.019	4.026	7.045	4.026

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1304.75	N.A.	13.90
0-30	2710.96	N.A.	29.00
0-40	4322.21	N.A.	46.20
0-60	7304.58	N.A.	78.00
0-80	9109.71	N.A.	97.30
0-90	9363.66	N.A.	100.00
10-90	9021.47	N.A.	96.30
20-40	3017.46	N.A.	32.20
20-50	4605.05	N.A.	49.20
40-70	4070.6	N.A.	43.50
60-80	1805.12	N.A.	19.30
70-80	716.90	N.A.	7.70
80-90	253.95	N.A.	2.70
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	9363.66	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	342.19
10-20	962.56
20-30	1406.21
30-40	1611.25
40-50	1587.59
50-60	1394.79
60-70	1088.22
70-80	716.90
80-90	253.95
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	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	62	55	80	69	61	55	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	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	18.8	20.4	19.2	20.8	21.1	19.1	20.7	19.5	21.1	21.4
	3H	20.5	21.9	20.8	22.3	22.6	21.4	22.9	21.8	23.2	23.5
	4H	21.1	22.4	21.5	22.8	23.2	22.5	23.9	22.9	24.2	24.6
	6H	21.4	22.7	21.9	23.1	23.5	23.5	24.8	23.9	25.2	25.6
	8H	21.5	22.8	22.0	23.2	23.6	23.9	25.2	24.3	25.6	26.0
	12H	21.6	22.8	22.0	23.2	23.6	24.2	25.4	24.6	25.8	26.2
4H	2H	19.5	20.9	19.9	21.3	21.6	19.8	21.1	20.2	21.5	21.9
	3H	21.4	22.6	21.8	23.0	23.4	22.3	23.4	22.7	23.8	24.2
	4H	22.2	23.2	22.6	23.6	24.1	23.5	24.6	24.0	25.0	25.4
	6H	22.7	23.6	23.2	24.1	24.5	24.8	25.7	25.2	26.2	26.6
	8H	22.9	23.7	23.3	24.2	24.6	25.3	26.1	25.7	26.6	27.1
	12H	22.9	23.7	23.4	24.2	24.7	25.6	26.4	26.1	26.9	27.4
8H	4H	22.7	23.6	23.1	24.0	24.5	23.9	24.7	24.3	25.2	25.6
	6H	23.4	24.1	23.9	24.6	25.1	25.3	26.1	25.8	26.5	27.0
	8H	23.7	24.3	24.2	24.8	25.3	25.9	26.6	26.4	27.1	27.6
	12H	23.8	24.4	24.3	24.9	25.5	26.4	27.0	26.9	27.5	28.0
12H	4H	22.8	23.6	23.3	24.1	24.5	23.9	24.7	24.4	25.2	25.6
	6H	23.6	24.3	24.1	24.7	25.3	25.4	26.1	25.9	26.5	27.1
	8H	23.9	24.5	24.5	25.0	25.6	26.1	26.6	26.6	27.1	27.7

Maximum UGR = 28.0

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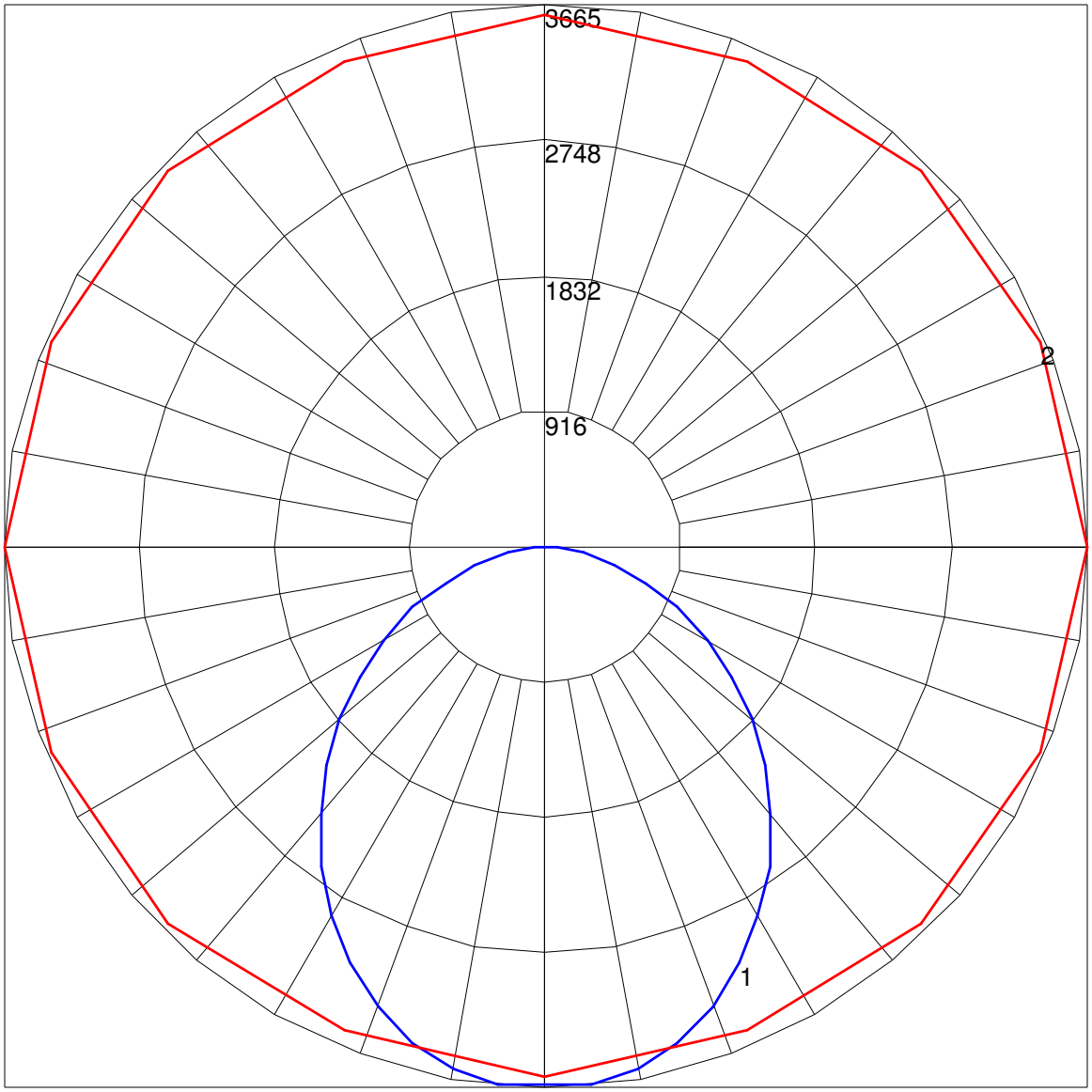
POLAR GRAPH



Maximum Candela = 3664.575 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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