H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-940-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-L110-940-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	9820
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
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	8774	8502	8440
55	7896	7943	8118
65	6899	7635	8363
75	5570	7709	9619
85	2581	8321	10053

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3824.334	3824.334	3824.334	3824.334	3824.334
5	3843.334	3801.111	3780.000	3727.221	3775.777
10	3769.444	3724.054	3696.610	3691.332	3698.721
15	3644.887	3600.553	3576.274	3567.830	3561.496
20	3479.162	3435.883	3395.772	3375.716	3378.883
25	3272.270	3236.381	3219.491	3166.713	3146.657
30	3030.544	2993.599	2955.599	2927.098	2911.265
35	2779.318	2745.540	2700.151	2661.094	2638.927
40	2491.147	2463.703	2416.202	2385.590	2367.646
45	2212.477	2180.810	2143.865	2126.975	2128.031
50	1917.972	1908.472	1868.361	1875.750	1885.250
55	1615.024	1615.024	1624.524	1649.857	1660.413
60	1333.186	1339.520	1382.798	1426.076	1452.466
65	1039.737	1077.738	1150.572	1225.518	1260.352
70	757.900	821.234	925.736	1026.015	1067.182
75	514.063	579.508	711.455	841.290	887.735
80	269.171	381.061	518.285	655.510	698.788
85	80.223	180.503	258.615	293.449	312.449
90	0.000	3.167	4.222	7.389	4.222

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1368.39	N.A.	13.90
0-30	2843.2	N.A.	29.00
0-40	4533.04	N.A.	46.20
0-60	7660.9	N.A.	78.00
0-80	9554.08	N.A.	97.30
0-90	9820.42	N.A.	100.00
10-90	9461.54	N.A.	96.30
20-40	3164.65	N.A.	32.20
20-50	4829.68	N.A.	49.20
40-70	4269.16	N.A.	43.50
60-80	1893.18	N.A.	19.30
70-80	751.87	N.A.	7.70
80-90	266.34	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	9820.42	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	358.88
10-20	1009.51
20-30	1474.81
30-40	1689.84
40-50	1665.03
50-60	1462.83
60-70	1141.31
70-80	751.87
80-90	266.34
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	104	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	83	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	37	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	18.9	20.5	19.3	20.9	21.2	19.2	20.8	19.6	21.2	21.5
	3H	20.6	22.0	20.9	22.4	22.7	21.5	23.0	21.9	23.3	23.6
	4H	21.2	22.5	21.6	22.9	23.3	22.6	24.0	23.0	24.3	24.7
	6H	21.5	22.8	22.0	23.2	23.6	23.6	24.9	24.0	25.3	25.7
	8H	21.6	22.9	22.1	23.3	23.7	24.0	25.3	24.4	25.7	26.1
	12H	21.7	22.9	22.1	23.3	23.7	24.3	25.5	24.7	25.9	26.3
4H	2H	19.6	21.0	20.0	21.4	21.7	19.9	21.2	20.3	21.6	22.0
	3H	21.5	22.7	21.9	23.1	23.5	22.4	23.5	22.8	23.9	24.3
	4H	22.3	23.3	22.7	23.7	24.2	23.6	24.7	24.1	25.1	25.5
	6H	22.8	23.7	23.3	24.2	24.6	24.9	25.8	25.3	26.3	26.7
	8H	23.0	23.8	23.4	24.3	24.7	25.4	26.2	25.8	26.7	27.2
	12H	23.0	23.8	23.5	24.3	24.8	25.7	26.5	26.2	27.0	27.5
8H	4H	22.8	23.7	23.2	24.1	24.6	24.0	24.8	24.4	25.3	25.7
	6H	23.5	24.2	24.0	24.7	25.2	25.4	26.2	25.9	26.6	27.1
	8H	23.8	24.4	24.3	24.9	25.4	26.0	26.7	26.5	27.2	27.7
	12H	23.9	24.5	24.4	25.0	25.6	26.5	27.1	27.0	27.6	28.1
12H	4H	22.9	23.7	23.4	24.2	24.6	24.0	24.8	24.5	25.3	25.7
	6H	23.7	24.4	24.2	24.8	25.4	25.5	26.2	26.0	26.6	27.2
	8H	24.0	24.6	24.6	25.1	25.7	26.2	26.7	26.7	27.2	27.8

Maximum UGR = 28.1

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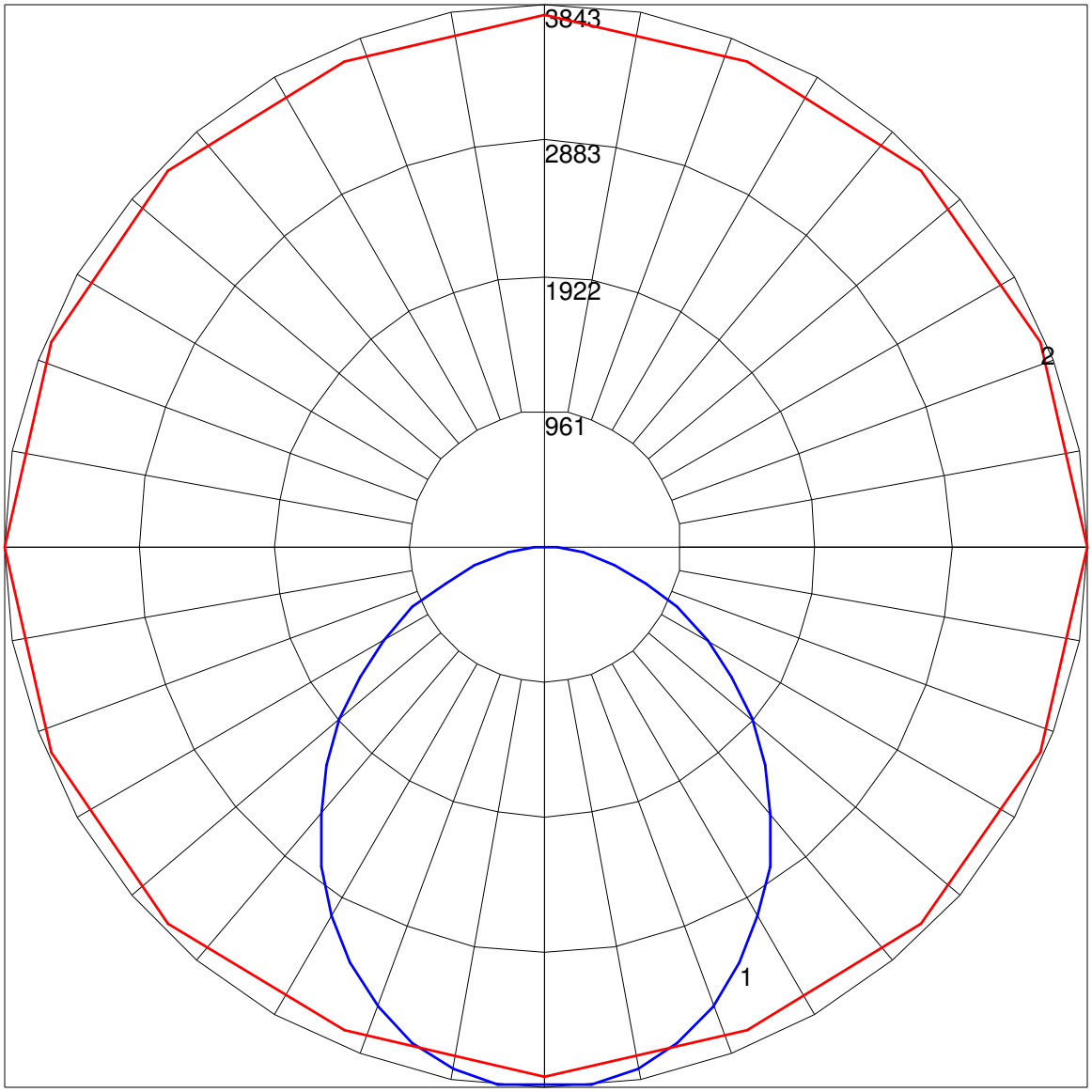
POLAR GRAPH



Maximum Candela = 3843.334 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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