H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-840-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-L90-840-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	9332
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	66.6
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	4002	4223	4439
55	3587	3926	4241
65	3153	3736	4245
75	2440	3747	4639
85	1473	4917	5634

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3570.143	3570.143	3570.143	3570.143	3570.143
5	3515.628	3510.782	3510.782	3498.668	3492.610
10	3504.725	3504.725	3510.782	3515.628	3515.628
15	3412.655	3417.500	3423.558	3432.038	3438.095
20	3187.325	3199.439	3213.977	3233.360	3239.417
25	3006.819	3017.722	3046.797	3072.237	3084.352
30	2634.904	2553.737	2885.674	2789.969	2775.432
35	2430.169	2453.186	2507.701	2553.737	2571.908
40	2162.438	2191.513	2252.086	2312.658	2335.676
45	1975.875	2001.315	2084.905	2162.438	2191.513
50	1716.625	1756.602	1848.673	1929.840	1957.703
55	1436.780	1480.392	1572.462	1664.532	1698.453
60	1171.472	1217.507	1321.692	1416.185	1451.317
65	930.394	990.966	1102.419	1212.661	1252.639
70	685.681	757.156	889.204	1005.503	1045.481
75	440.968	529.404	677.201	794.711	838.323
80	242.290	357.378	526.981	642.068	677.201
85	89.647	204.735	299.228	336.783	342.840
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1294.17	N.A.	13.90
0-30	2682.16	N.A.	28.70
0-40	4246.8	N.A.	45.50
0-60	7252.62	N.A.	77.70
0-80	9052.96	N.A.	97.00
0-90	9332.04	N.A.	100.00
10-90	8996.44	N.A.	96.40
20-40	2952.63	N.A.	31.60
20-50	4548.52	N.A.	48.70
40-70	4094.21	N.A.	43.90
60-80	1800.34	N.A.	19.30
70-80	711.95	N.A.	7.60
80-90	279.08	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	9332.04	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	335.59
10-20	958.58
20-30	1387.99
30-40	1564.64
40-50	1595.89
50-60	1409.93
60-70	1088.39
70-80	711.95
80-90	279.08
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	16.1	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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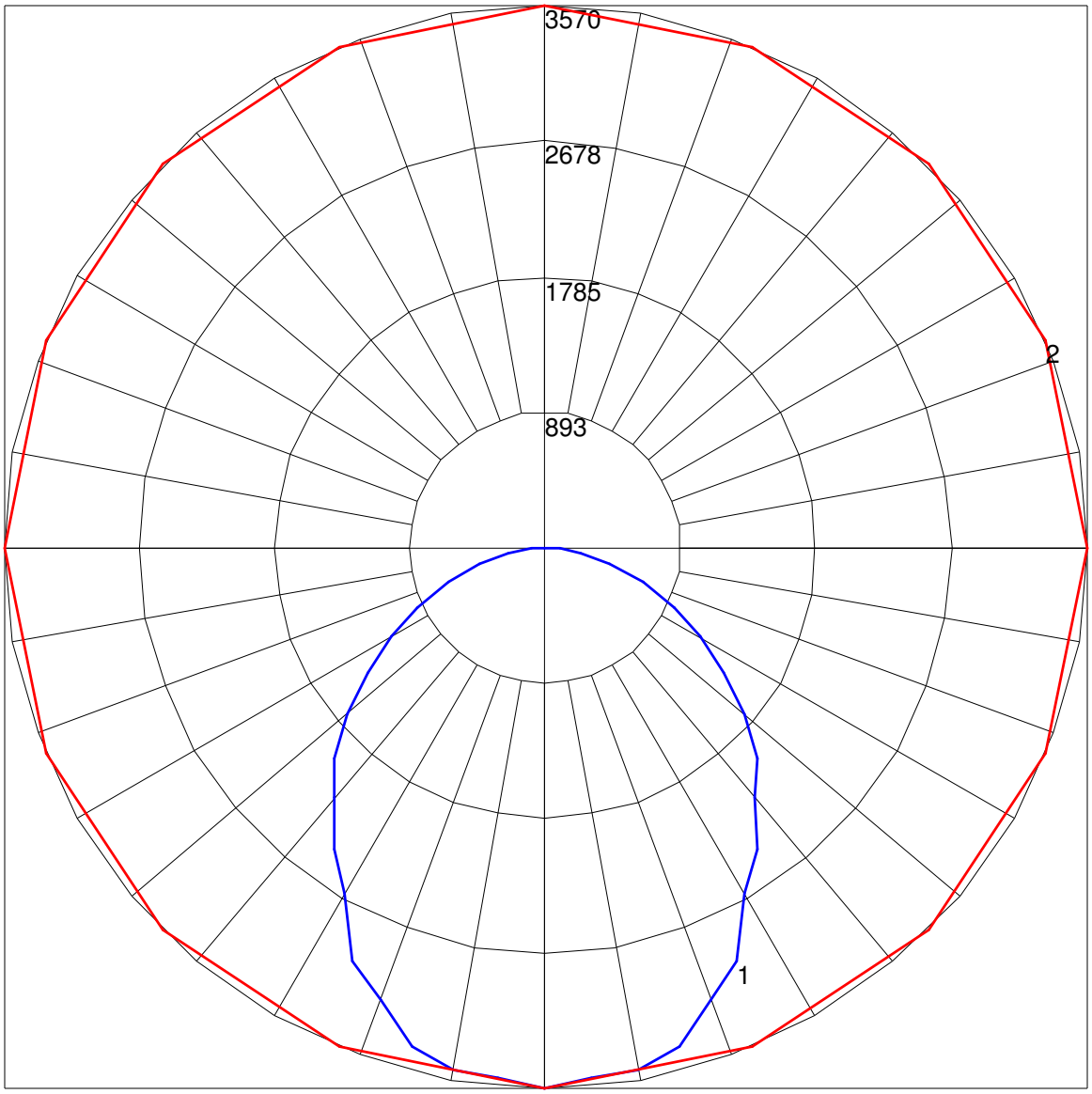
POLAR GRAPH



Maximum Candela = 3570.143 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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