H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-835-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-L110-835-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	11419
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	136
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	10203	9886	9813
55	9182	9236	9440
65	8022	8878	9725
75	6477	8964	11184
85	3001	9676	11690

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4446.899	4446.899	4446.899	4446.899	4446.899
5	4468.993	4419.896	4395.348	4333.978	4390.439
10	4383.074	4330.296	4298.383	4292.246	4300.838
15	4238.240	4186.689	4158.458	4148.639	4141.275
20	4045.537	3995.213	3948.572	3925.251	3928.933
25	3804.965	3763.233	3743.595	3682.224	3658.903
30	3523.889	3480.929	3436.743	3403.603	3385.191
35	3231.765	3192.488	3139.710	3094.296	3068.520
40	2896.683	2864.770	2809.537	2773.942	2753.076
45	2572.647	2535.825	2492.866	2473.227	2474.455
50	2230.200	2219.154	2172.512	2181.104	2192.151
55	1877.934	1877.934	1888.981	1918.439	1930.713
60	1550.216	1557.581	1607.905	1658.228	1688.913
65	1208.997	1253.184	1337.875	1425.021	1465.525
70	881.279	954.923	1076.437	1193.041	1240.910
75	597.748	673.847	827.273	978.244	1032.250
80	312.989	443.094	602.657	762.220	812.544
85	93.283	209.887	300.715	341.219	363.313
90	0.000	3.682	4.910	8.592	4.910

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1591.15	N.A.	13.90
0-30	3306.05	N.A.	29.00
0-40	5270.98	N.A.	46.20
0-60	8908.02	N.A.	78.00
0-80	11109.39	N.A.	97.30
0-90	11419.09	N.A.	100.00
10-90	11001.79	N.A.	96.30
20-40	3679.83	N.A.	32.20
20-50	5615.91	N.A.	49.20
40-70	4964.14	N.A.	43.50
60-80	2201.37	N.A.	19.30
70-80	874.27	N.A.	7.70
80-90	309.70	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	11419.09	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	417.30
10-20	1173.85
20-30	1714.89
30-40	1964.93
40-50	1936.08
50-60	1700.96
60-70	1327.1
70-80	874.27
80-90	309.70
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	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	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	19.5	21.1	19.9	21.5	21.8	19.8	21.4	20.2	21.8	22.1
	3H	21.2	22.6	21.5	23.0	23.3	22.1	23.6	22.5	23.9	24.2
	4H	21.8	23.1	22.2	23.5	23.9	23.2	24.6	23.6	24.9	25.3
	6H	22.1	23.4	22.6	23.8	24.2	24.2	25.5	24.6	25.9	26.3
	8H	22.2	23.5	22.7	23.9	24.3	24.6	25.9	25.0	26.3	26.7
	12H	22.3	23.5	22.7	23.9	24.3	24.9	26.1	25.3	26.5	26.9
4H	2H	20.2	21.6	20.6	22.0	22.3	20.5	21.8	20.9	22.2	22.6
	3H	22.1	23.3	22.5	23.7	24.1	23.0	24.1	23.4	24.5	24.9
	4H	22.9	23.9	23.3	24.3	24.8	24.2	25.3	24.7	25.7	26.1
	6H	23.4	24.3	23.9	24.8	25.2	25.5	26.4	25.9	26.9	27.3
	8H	23.6	24.4	24.0	24.9	25.3	26.0	26.8	26.4	27.3	27.8
	12H	23.6	24.4	24.1	24.9	25.4	26.3	27.1	26.8	27.6	28.0
8H	4H	23.4	24.3	23.8	24.7	25.2	24.6	25.4	25.0	25.9	26.3
	6H	24.1	24.8	24.6	25.3	25.8	26.0	26.8	26.5	27.2	27.7
	8H	24.4	25.0	24.9	25.5	26.0	26.6	27.3	27.1	27.8	28.3
	12H	24.5	25.1	25.0	25.6	26.2	27.1	27.7	27.6	28.2	28.7
12H	4H	23.5	24.3	24.0	24.8	25.2	24.6	25.4	25.1	25.9	26.3
	6H	24.3	25.0	24.8	25.4	26.0	26.1	26.8	26.6	27.2	27.8
	8H	24.6	25.2	25.2	25.7	26.3	26.8	27.3	27.3	27.8	28.4

Maximum UGR = 28.7

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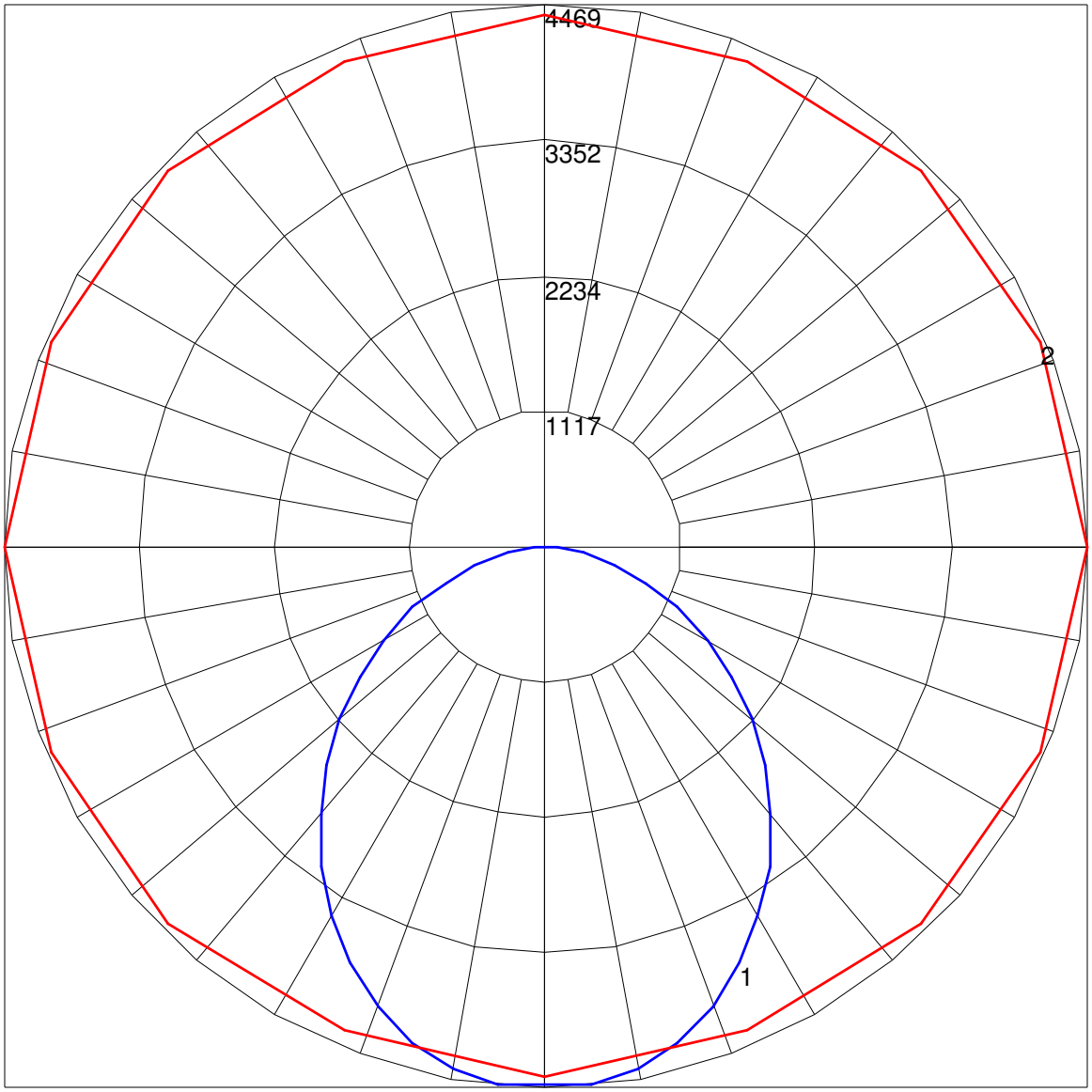
POLAR GRAPH



Maximum Candela = 4468.993 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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