H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L49-840-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-L49-840-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	5387
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	36.7
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	4814	4664	4630
55	4332	4357	4454
65	3785	4188	4588
75	3056	4229	5277
85	1416	4565	5515

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	2098.034	2098.034	2098.034	2098.034	2098.034
5	2108.457	2085.294	2073.712	2044.758	2071.396
10	2067.921	2043.020	2027.964	2025.069	2029.122
15	1999.589	1975.267	1961.948	1957.315	1953.841
20	1908.672	1884.929	1862.924	1851.921	1853.659
25	1795.171	1775.482	1766.216	1737.262	1726.259
30	1662.560	1642.292	1621.445	1605.809	1597.123
35	1524.737	1506.206	1481.306	1459.879	1447.718
40	1366.646	1351.590	1325.531	1308.737	1298.893
45	1213.767	1196.395	1176.126	1166.861	1167.440
50	1052.202	1046.990	1024.985	1029.038	1034.250
55	886.004	886.004	891.215	905.114	910.904
60	731.387	734.862	758.604	782.347	796.824
65	570.401	591.248	631.205	672.320	691.430
70	415.785	450.530	507.860	562.873	585.457
75	282.016	317.919	390.305	461.533	487.012
80	147.667	209.051	284.332	359.613	383.356
85	44.011	99.024	141.876	160.986	171.410
90	0.000	1.737	2.316	4.054	2.316

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	750.70	N.A.	13.90
0-30	1559.78	N.A.	29.00
0-40	2486.83	N.A.	46.20
0-60	4202.78	N.A.	78.00
0-80	5241.38	N.A.	97.30
0-90	5387.49	N.A.	100.00
10-90	5190.61	N.A.	96.30
20-40	1736.13	N.A.	32.20
20-50	2649.57	N.A.	49.20
40-70	2342.07	N.A.	43.50
60-80	1038.6	N.A.	19.30
70-80	412.48	N.A.	7.70
80-90	146.12	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	5387.49	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	196.88
10-20	553.82
20-30	809.08
30-40	927.05
40-50	913.44
50-60	802.51
60-70	626.12
70-80	412.48
80-90	146.12
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	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	16.9	18.5	17.3	18.9	19.2	17.2	18.8	17.6	19.2	19.5
	3H	18.6	20.0	18.9	20.4	20.7	19.5	21.0	19.9	21.3	21.6
	4H	19.2	20.5	19.6	20.9	21.3	20.6	22.0	21.0	22.3	22.7
	6H	19.5	20.8	20.0	21.2	21.6	21.6	22.9	22.0	23.3	23.7
	8H	19.6	20.9	20.1	21.3	21.7	22.0	23.3	22.4	23.7	24.1
	12H	19.7	20.9	20.1	21.3	21.7	22.3	23.5	22.7	23.9	24.3
4H	2H	17.6	19.0	18.0	19.4	19.7	17.9	19.2	18.3	19.6	20.0
	3H	19.5	20.7	19.9	21.1	21.5	20.4	21.5	20.8	21.9	22.3
	4H	20.3	21.3	20.7	21.7	22.2	21.6	22.7	22.1	23.1	23.5
	6H	20.8	21.7	21.3	22.2	22.6	22.9	23.8	23.3	24.3	24.7
	8H	21.0	21.8	21.4	22.3	22.7	23.4	24.2	23.8	24.7	25.2
	12H	21.0	21.8	21.5	22.3	22.8	23.7	24.5	24.2	25.0	25.4
8H	4H	20.8	21.7	21.2	22.1	22.6	22.0	22.8	22.4	23.3	23.7
	6H	21.5	22.2	22.0	22.7	23.2	23.4	24.2	23.9	24.6	25.1
	8H	21.8	22.4	22.3	22.9	23.4	24.0	24.7	24.5	25.2	25.7
	12H	21.9	22.5	22.4	23.0	23.6	24.5	25.1	25.0	25.6	26.1
12H	4H	20.9	21.7	21.4	22.2	22.6	22.0	22.8	22.5	23.3	23.7
	6H	21.7	22.4	22.2	22.8	23.4	23.5	24.2	24.0	24.6	25.2
	8H	22.0	22.6	22.6	23.1	23.7	24.2	24.7	24.7	25.2	25.8

Maximum UGR = 26.1

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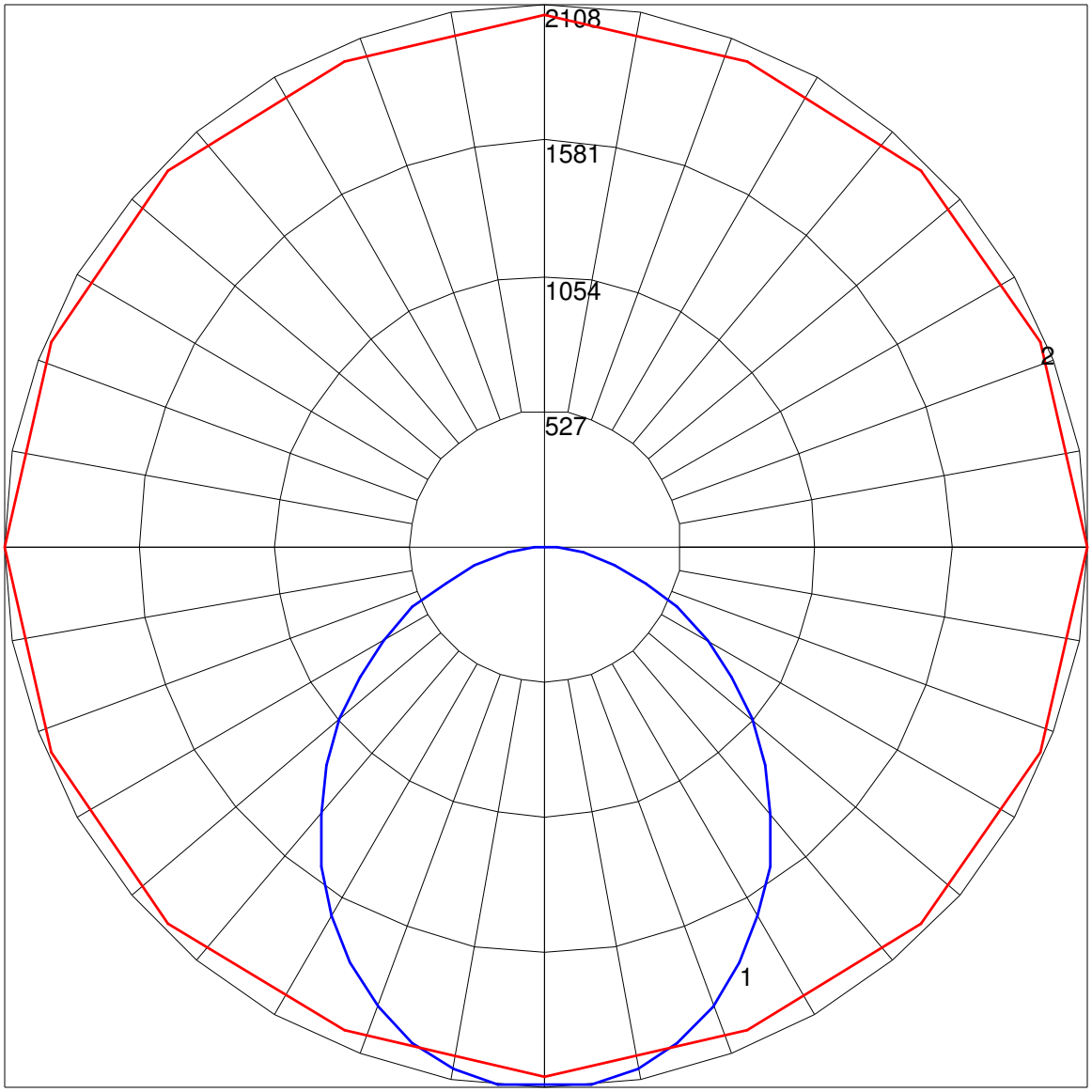
POLAR GRAPH



Maximum Candela = 2108.457 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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