H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-840-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-L110-840-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	11762
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
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	10509	10183	10108
55	9457	9513	9723
65	8263	9144	10016
75	6671	9232	11520
85	3092	9966	12041

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4580.309	4580.309	4580.309	4580.309	4580.309
5	4603.065	4552.496	4527.211	4464.000	4522.154
10	4514.569	4460.207	4427.337	4421.016	4429.865
15	4365.390	4312.292	4283.215	4273.101	4265.515
20	4166.905	4115.072	4067.031	4043.011	4046.803
25	3919.116	3876.132	3855.904	3792.693	3768.673
30	3629.607	3585.359	3539.847	3505.712	3486.749
35	3328.720	3288.265	3233.903	3187.126	3160.577
40	2983.585	2950.715	2893.825	2857.162	2835.670
45	2649.828	2611.901	2567.653	2547.425	2548.690
50	2297.108	2285.730	2237.689	2246.538	2257.917
55	1934.273	1934.273	1945.651	1975.993	1988.635
60	1596.724	1604.309	1656.143	1707.976	1739.582
65	1245.268	1290.780	1378.012	1467.772	1509.492
70	907.718	983.572	1108.731	1228.832	1278.138
75	615.680	694.063	852.092	1007.592	1063.218
80	322.379	456.387	620.737	785.087	836.921
85	96.082	216.183	309.737	351.456	374.212
90	0.000	3.793	5.057	8.850	5.057

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1638.89	N.A.	13.90
0-30	3405.23	N.A.	29.00
0-40	5429.11	N.A.	46.20
0-60	9175.27	N.A.	78.00
0-80	11442.68	N.A.	97.30
0-90	11761.67	N.A.	100.00
10-90	11331.85	N.A.	96.30
20-40	3790.22	N.A.	32.20
20-50	5784.39	N.A.	49.20
40-70	5113.07	N.A.	43.50
60-80	2267.41	N.A.	19.30
70-80	900.50	N.A.	7.70
80-90	318.99	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	11761.67	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	429.82
10-20	1209.07
20-30	1766.34
30-40	2023.88
40-50	1994.16
50-60	1751.99
60-70	1366.91
70-80	900.50
80-90	318.99
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	19.6	21.2	20.0	21.6	21.9	19.9	21.5	20.3	21.9	22.2
	3H	21.3	22.7	21.6	23.1	23.4	22.2	23.7	22.6	24.0	24.3
	4H	21.9	23.2	22.3	23.6	24.0	23.3	24.7	23.7	25.0	25.4
	6H	22.2	23.5	22.7	23.9	24.3	24.3	25.6	24.7	26.0	26.4
	8H	22.3	23.6	22.8	24.0	24.4	24.7	26.0	25.1	26.4	26.8
	12H	22.4	23.6	22.8	24.0	24.4	25.0	26.2	25.4	26.6	27.0
4H	2H	20.3	21.7	20.7	22.1	22.4	20.6	21.9	21.0	22.3	22.7
	3H	22.2	23.4	22.6	23.8	24.2	23.1	24.2	23.5	24.6	25.0
	4H	23.0	24.0	23.4	24.4	24.9	24.3	25.4	24.8	25.8	26.2
	6H	23.5	24.4	24.0	24.9	25.3	25.6	26.5	26.0	27.0	27.4
	8H	23.7	24.5	24.1	25.0	25.4	26.1	26.9	26.5	27.4	27.9
	12H	23.7	24.5	24.2	25.0	25.5	26.4	27.2	26.9	27.7	28.2
8H	4H	23.5	24.4	23.9	24.8	25.3	24.7	25.5	25.1	26.0	26.4
	6H	24.2	24.9	24.7	25.4	25.9	26.1	26.9	26.6	27.3	27.8
	8H	24.5	25.1	25.0	25.6	26.1	26.7	27.4	27.2	27.9	28.4
	12H	24.6	25.2	25.1	25.7	26.3	27.2	27.8	27.7	28.3	28.8
12H	4H	23.6	24.4	24.1	24.9	25.3	24.7	25.5	25.2	26.0	26.4
	6H	24.4	25.1	24.9	25.5	26.1	26.2	26.9	26.7	27.3	27.9
	8H	24.7	25.3	25.3	25.8	26.4	26.9	27.4	27.4	27.9	28.5

Maximum UGR = 28.8

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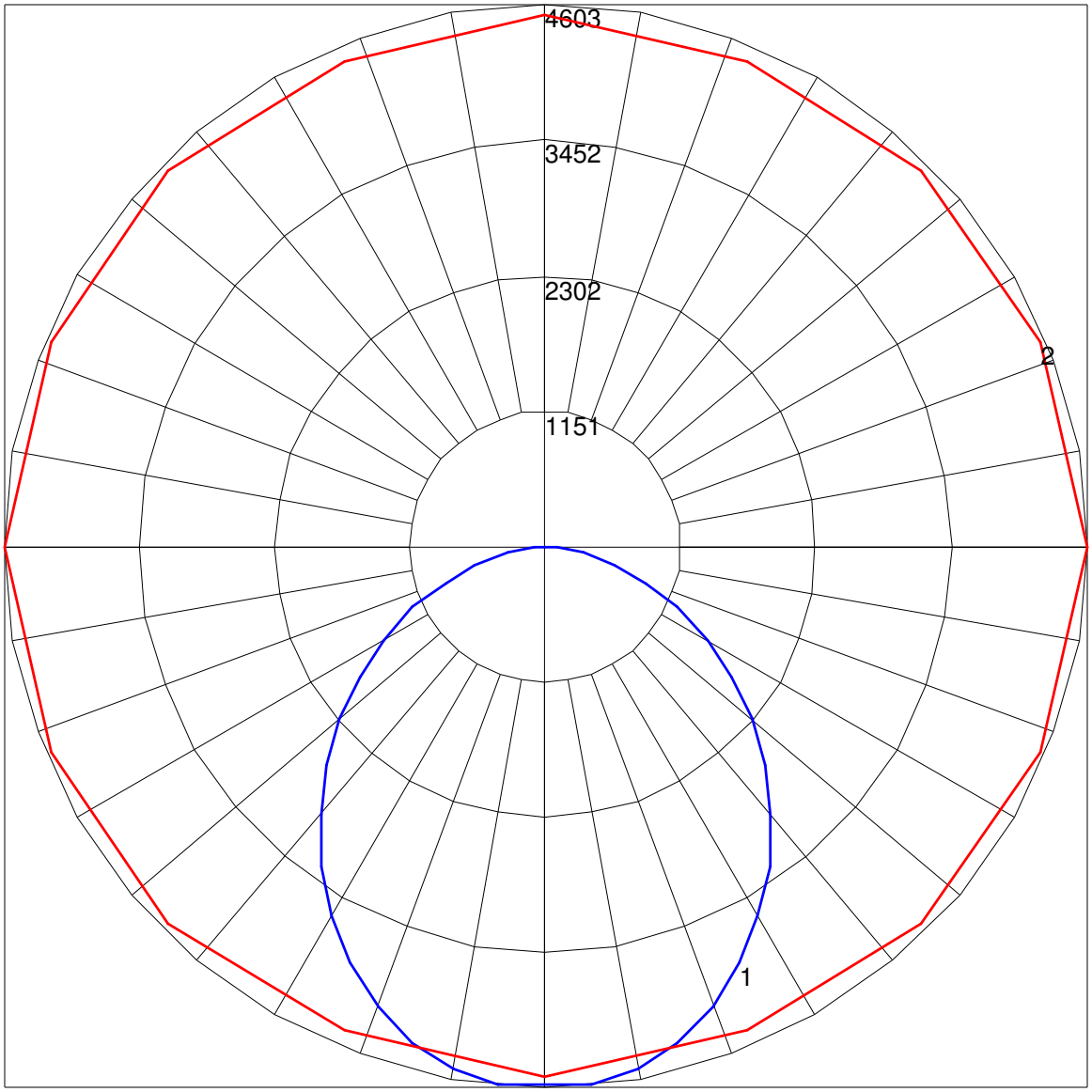
POLAR GRAPH



Maximum Candela = 4603.065 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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