H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-830-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-L90-830-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	9239
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	66.6
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	8255	7999	7940
55	7429	7472	7637
65	6491	7183	7868
75	5240	7252	9049
85	2428	7828	9458

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3597.874	3597.874	3597.874	3597.874	3597.874
5	3615.749	3576.026	3556.165	3506.512	3552.193
10	3546.234	3503.533	3477.713	3472.748	3479.699
15	3429.053	3387.344	3364.504	3356.559	3350.601
20	3273.142	3232.426	3194.690	3175.821	3178.800
25	3078.501	3044.737	3028.848	2979.194	2960.326
30	2851.089	2816.332	2780.581	2753.769	2738.873
35	2614.740	2582.962	2540.260	2503.516	2482.662
40	2343.633	2317.813	2273.125	2244.326	2227.444
45	2081.464	2051.672	2016.915	2001.026	2002.019
50	1804.399	1795.461	1757.725	1764.676	1773.614
55	1519.389	1519.389	1528.327	1552.160	1562.091
60	1254.241	1260.199	1300.915	1341.631	1366.457
65	978.169	1013.919	1082.441	1152.948	1185.719
70	713.021	772.604	870.918	965.259	1003.989
75	483.623	545.193	669.326	791.473	835.168
80	253.232	358.496	487.595	616.693	657.409
85	75.473	169.814	243.301	276.072	293.947
90	0.000	2.979	3.972	6.951	3.972

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1287.36	N.A.	13.90
0-30	2674.84	N.A.	29.00
0-40	4264.62	N.A.	46.20
0-60	7207.26	N.A.	78.00
0-80	8988.33	N.A.	97.30
0-90	9238.9	N.A.	100.00
10-90	8901.27	N.A.	96.30
20-40	2977.25	N.A.	32.20
20-50	4543.69	N.A.	49.20
40-70	4016.36	N.A.	43.50
60-80	1781.07	N.A.	19.30
70-80	707.35	N.A.	7.70
80-90	250.57	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	9238.9	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	337.63
10-20	949.74
20-30	1387.48
30-40	1589.78
40-50	1566.43
50-60	1376.21
60-70	1073.72
70-80	707.35
80-90	250.57
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	18.7	20.3	19.1	20.7	21.0	19.0	20.6	19.4	21.0	21.3
	3H	20.4	21.8	20.7	22.2	22.5	21.3	22.8	21.7	23.1	23.4
	4H	21.0	22.3	21.4	22.7	23.1	22.4	23.8	22.8	24.1	24.5
	6H	21.3	22.6	21.8	23.0	23.4	23.4	24.7	23.8	25.1	25.5
	8H	21.4	22.7	21.9	23.1	23.5	23.8	25.1	24.2	25.5	25.9
	12H	21.5	22.7	21.9	23.1	23.5	24.1	25.3	24.5	25.7	26.1
4H	2H	19.4	20.8	19.8	21.2	21.5	19.7	21.0	20.1	21.4	21.8
	3H	21.3	22.5	21.7	22.9	23.3	22.2	23.3	22.6	23.7	24.1
	4H	22.1	23.1	22.5	23.5	24.0	23.4	24.5	23.9	24.9	25.3
	6H	22.6	23.5	23.1	24.0	24.4	24.7	25.6	25.1	26.1	26.5
	8H	22.8	23.6	23.2	24.1	24.5	25.2	26.1	25.6	26.5	27.0
	12H	22.8	23.6	23.3	24.1	24.6	25.5	26.3	26.0	26.8	27.3
8H	4H	22.6	23.5	23.0	23.9	24.4	23.8	24.6	24.2	25.1	25.5
	6H	23.3	24.0	23.8	24.5	25.0	25.2	26.0	25.7	26.4	26.9
	8H	23.6	24.2	24.1	24.7	25.2	25.8	26.5	26.3	27.0	27.5
	12H	23.7	24.3	24.2	24.8	25.4	26.3	26.9	26.8	27.4	27.9
12H	4H	22.7	23.5	23.2	24.0	24.4	23.8	24.6	24.3	25.1	25.5
	6H	23.5	24.2	24.0	24.6	25.2	25.3	26.0	25.8	26.4	27.0
	8H	23.8	24.4	24.4	24.9	25.5	26.0	26.5	26.5	27.0	27.6

Maximum UGR = 27.9

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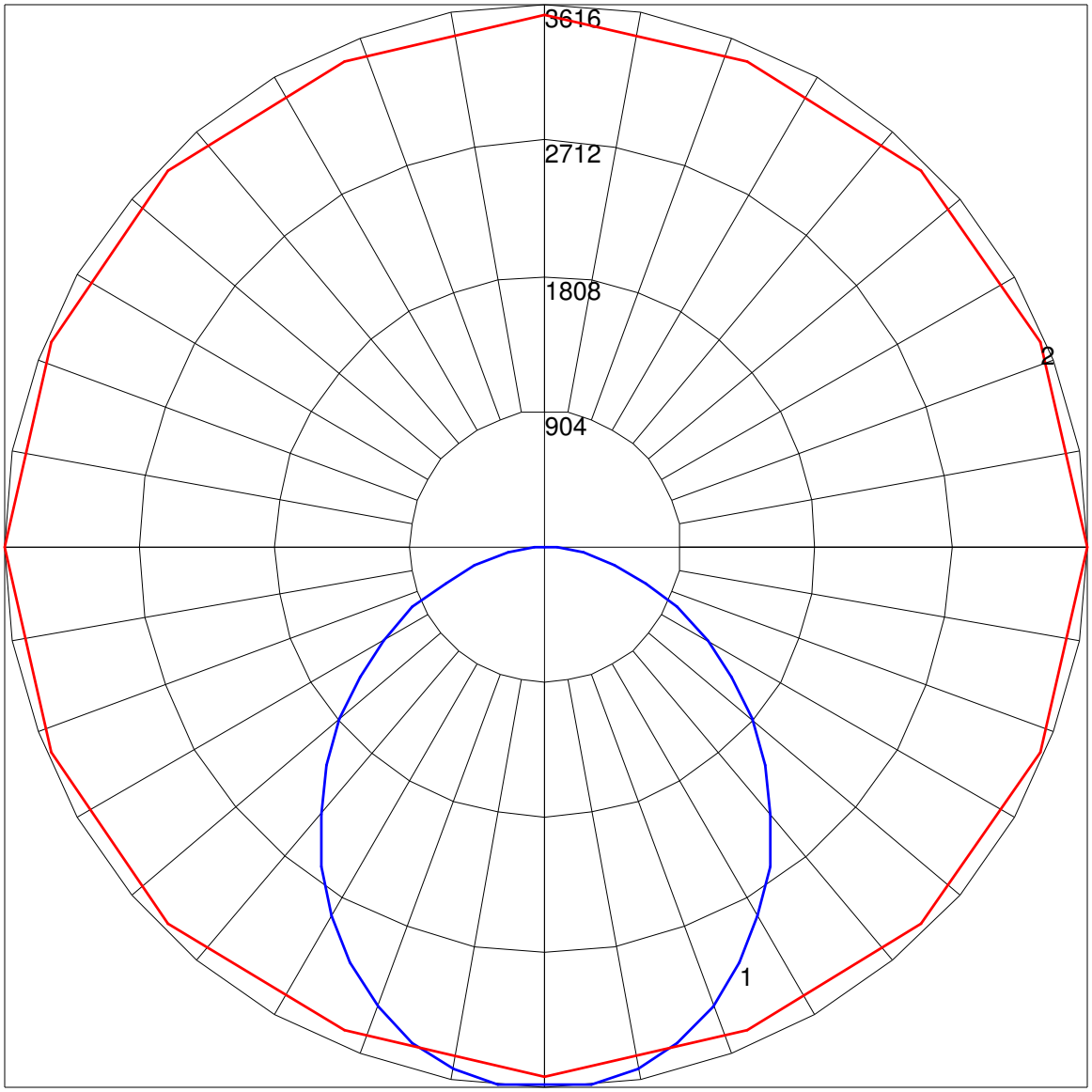
POLAR GRAPH



Maximum Candela = 3615.749 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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