H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-840-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-L90-840-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	9612
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	144
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	8588	8322	8261
55	7729	7774	7946
65	6753	7473	8186
75	5452	7545	9415
85	2527	8145	9840

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3743.244	3743.244	3743.244	3743.244	3743.244
5	3761.841	3720.514	3699.850	3648.191	3695.717
10	3689.518	3645.091	3618.228	3613.062	3620.294
15	3567.602	3524.208	3500.445	3492.179	3485.980
20	3405.391	3363.030	3323.769	3304.139	3307.238
25	3202.886	3167.758	3151.227	3099.567	3079.937
30	2966.286	2930.124	2892.929	2865.033	2849.535
35	2720.387	2687.325	2642.898	2604.670	2582.973
40	2438.326	2411.463	2364.970	2335.007	2317.443
45	2165.564	2134.569	2098.407	2081.876	2082.909
50	1877.305	1868.006	1828.745	1835.977	1845.276
55	1580.779	1580.779	1590.078	1614.874	1625.206
60	1304.918	1311.117	1353.478	1395.838	1421.668
65	1017.691	1054.886	1126.176	1199.532	1233.628
70	741.830	803.821	906.107	1004.260	1044.554
75	503.163	567.221	696.369	823.452	868.912
80	263.463	372.981	507.296	641.610	683.971
85	78.522	176.675	253.131	287.227	305.824
90	0.000	3.100	4.133	7.232	4.133

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1339.38	N.A.	13.90
0-30	2782.91	N.A.	29.00
0-40	4436.93	N.A.	46.20
0-60	7498.46	N.A.	78.00
0-80	9351.5	N.A.	97.30
0-90	9612.19	N.A.	100.00
10-90	9260.92	N.A.	96.30
20-40	3097.55	N.A.	32.20
20-50	4727.27	N.A.	49.20
40-70	4178.64	N.A.	43.50
60-80	1853.03	N.A.	19.30
70-80	735.93	N.A.	7.70
80-90	260.70	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	9612.19	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	351.27
10-20	988.11
20-30	1443.54
30-40	1654.01
40-50	1629.73
50-60	1431.81
60-70	1117.11
70-80	735.93
80-90	260.70
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	18.9	20.5	19.3	20.9	21.2	19.2	20.8	19.6	21.2	21.5
	3H	20.6	22.0	20.9	22.4	22.7	21.5	23.0	21.9	23.3	23.6
	4H	21.2	22.5	21.6	22.9	23.3	22.6	24.0	23.0	24.3	24.7
	6H	21.5	22.8	22.0	23.2	23.6	23.6	24.9	24.0	25.3	25.7
	8H	21.6	22.9	22.1	23.3	23.7	24.0	25.3	24.4	25.7	26.1
	12H	21.7	22.9	22.1	23.3	23.7	24.3	25.5	24.7	25.9	26.3
4H	2H	19.6	21.0	20.0	21.4	21.7	19.9	21.2	20.3	21.6	22.0
	3H	21.5	22.7	21.9	23.1	23.5	22.4	23.5	22.8	23.9	24.3
	4H	22.3	23.3	22.7	23.7	24.2	23.6	24.7	24.1	25.1	25.5
	6H	22.8	23.7	23.3	24.2	24.6	24.9	25.8	25.3	26.3	26.7
	8H	23.0	23.8	23.4	24.3	24.7	25.4	26.2	25.8	26.7	27.2
	12H	23.0	23.8	23.5	24.3	24.8	25.7	26.5	26.2	27.0	27.4
8H	4H	22.8	23.7	23.2	24.1	24.6	24.0	24.8	24.4	25.3	25.7
	6H	23.5	24.2	24.0	24.7	25.2	25.4	26.2	25.9	26.6	27.1
	8H	23.8	24.4	24.3	24.9	25.4	26.0	26.7	26.5	27.2	27.7
	12H	23.9	24.5	24.4	25.0	25.6	26.5	27.1	27.0	27.6	28.1
12H	4H	22.9	23.7	23.4	24.2	24.6	24.0	24.8	24.5	25.3	25.7
	6H	23.7	24.4	24.2	24.8	25.4	25.5	26.2	26.0	26.6	27.2
	8H	24.0	24.6	24.6	25.1	25.7	26.2	26.7	26.7	27.2	27.8

Maximum UGR = 28.1

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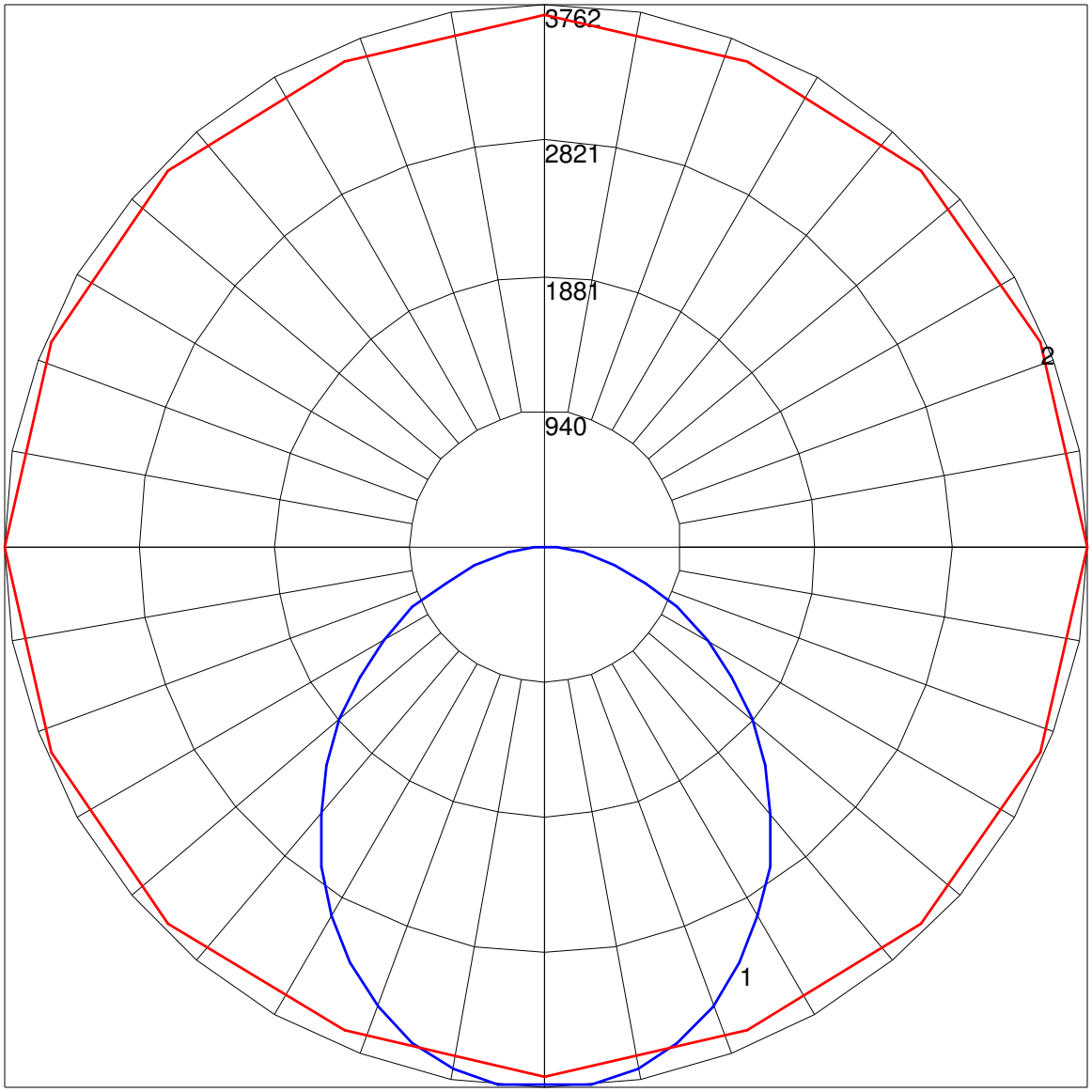
POLAR GRAPH



Maximum Candela = 3761.841 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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