H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-940-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-L90-940-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	8026
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
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	7171	6949	6897
55	6453	6491	6634
65	5638	6239	6835
75	4552	6300	7861
85	2110	6800	8216

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3125.426	3125.426	3125.426	3125.426	3125.426
5	3140.954	3106.447	3089.194	3046.061	3085.743
10	3080.567	3043.473	3021.044	3016.730	3022.769
15	2978.773	2942.541	2922.700	2915.799	2910.623
20	2843.335	2807.966	2775.185	2758.794	2761.382
25	2674.253	2644.923	2631.120	2587.987	2571.597
30	2476.704	2446.510	2415.455	2392.163	2379.223
35	2271.390	2243.785	2206.690	2174.772	2156.656
40	2035.883	2013.454	1974.634	1949.617	1934.952
45	1808.140	1782.260	1752.067	1738.265	1739.127
50	1567.458	1559.694	1526.912	1532.951	1540.715
55	1319.873	1319.873	1327.637	1348.341	1356.968
60	1089.543	1094.719	1130.088	1165.457	1187.023
65	849.722	880.778	940.302	1001.551	1030.019
70	619.392	671.151	756.555	838.508	872.152
75	420.117	473.602	581.434	687.542	725.499
80	219.979	311.421	423.567	535.713	571.082
85	65.562	147.515	211.352	239.820	255.348
90	0.000	2.588	3.451	6.039	3.451

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1118.31	N.A.	13.90
0-30	2323.6	N.A.	29.00
0-40	3704.62	N.A.	46.20
0-60	6260.85	N.A.	78.00
0-80	7808.04	N.A.	97.30
0-90	8025.71	N.A.	100.00
10-90	7732.42	N.A.	96.30
20-40	2586.3	N.A.	32.20
20-50	3947.04	N.A.	49.20
40-70	3488.96	N.A.	43.50
60-80	1547.19	N.A.	19.30
70-80	614.46	N.A.	7.70
80-90	217.67	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	8025.71	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	293.29
10-20	825.02
20-30	1205.28
30-40	1381.02
40-50	1360.74
50-60	1195.49
60-70	932.73
70-80	614.46
80-90	217.67
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	18.2	19.8	18.6	20.2	20.5	18.5	20.1	18.9	20.5	20.8
	3H	19.9	21.3	20.2	21.7	22.0	20.8	22.3	21.2	22.6	22.9
	4H	20.5	21.8	20.9	22.2	22.6	21.9	23.3	22.3	23.6	24.0
	6H	20.8	22.1	21.3	22.5	22.9	22.9	24.2	23.3	24.6	25.0
	8H	20.9	22.2	21.4	22.6	23.0	23.3	24.6	23.7	25.0	25.4
	12H	21.0	22.2	21.4	22.6	23.0	23.6	24.8	24.0	25.2	25.6
4H	2H	18.9	20.3	19.3	20.7	21.0	19.2	20.5	19.6	20.9	21.3
	3H	20.8	22.0	21.2	22.4	22.8	21.7	22.8	22.1	23.2	23.6
	4H	21.6	22.6	22.0	23.0	23.5	22.9	24.0	23.4	24.4	24.8
	6H	22.1	23.0	22.6	23.5	23.9	24.2	25.1	24.6	25.6	26.0
	8H	22.3	23.1	22.7	23.6	24.0	24.7	25.5	25.1	26.0	26.5
	12H	22.3	23.1	22.8	23.6	24.1	25.0	25.8	25.5	26.3	26.8
8H	4H	22.1	23.0	22.5	23.4	23.9	23.3	24.1	23.7	24.6	25.0
	6H	22.8	23.5	23.3	24.0	24.5	24.7	25.5	25.2	25.9	26.4
	8H	23.1	23.7	23.6	24.2	24.7	25.3	26.0	25.8	26.5	27.0
	12H	23.2	23.8	23.7	24.3	24.9	25.8	26.4	26.3	26.9	27.4
12H	4H	22.2	23.0	22.7	23.5	23.9	23.3	24.1	23.8	24.6	25.0
	6H	23.0	23.7	23.5	24.1	24.7	24.8	25.5	25.3	25.9	26.5
	8H	23.3	23.9	23.9	24.4	25.0	25.5	26.0	26.0	26.5	27.1

Maximum UGR = 27.4

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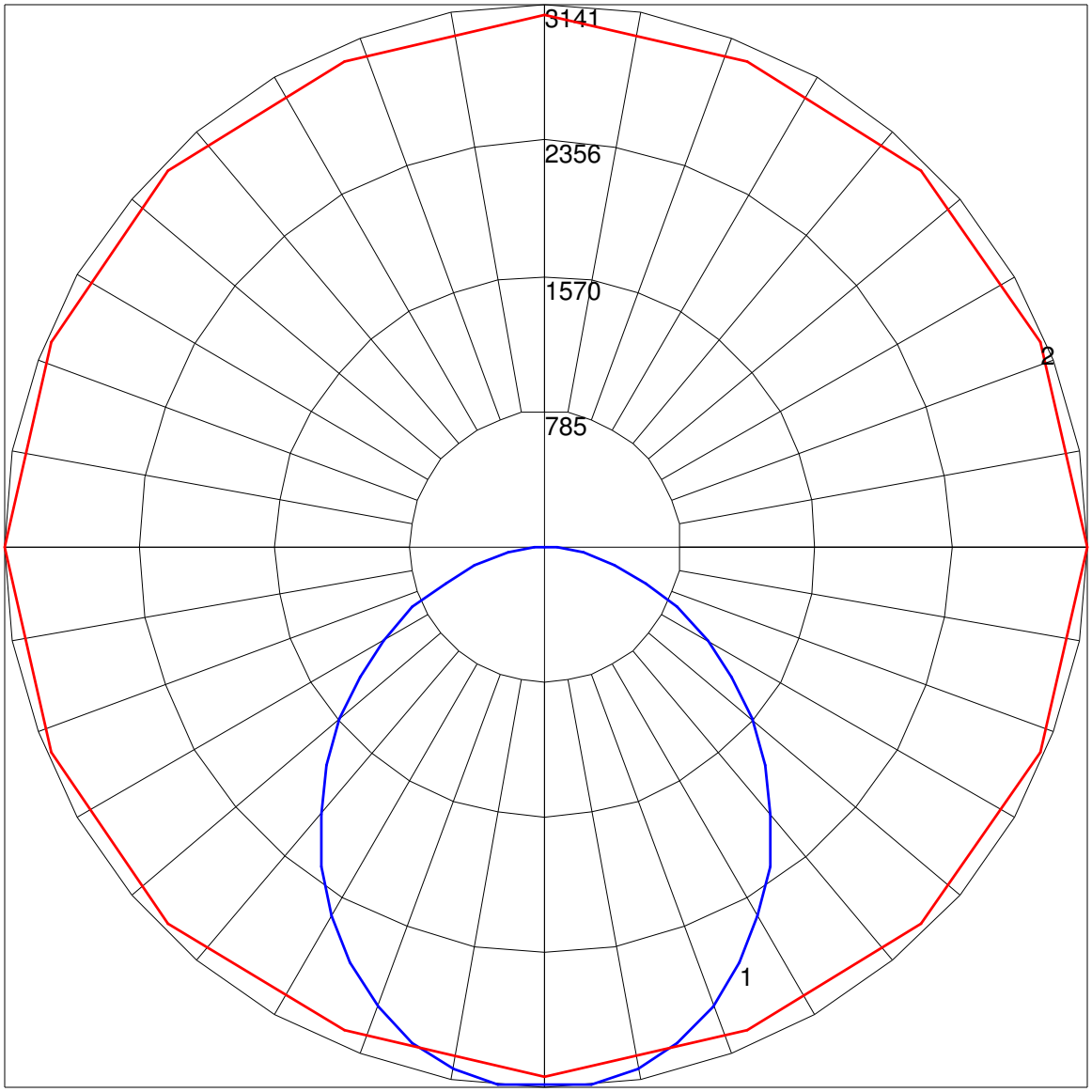
POLAR GRAPH



Maximum Candela = 3140.954 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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