H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L30-935-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20990.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 16-AUG-2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 48 INCH LENSED LED SURFACE LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[MORE] 0-10V DIMMING DRIVER
[LUMCAT] 76R-4-L30-935-DRV-UNV
[LAMPCAT] HLMX 90 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2454
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	20.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4293	3935	4037
55	3661	3410	3590
65	2945	2824	3108
75	2284	2395	2686
85	1072	2159	2500

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	792.316	792.316	792.316	792.316	792.316
5	798.959	788.484	786.440	786.440	784.140
10	784.396	775.453	775.964	778.008	775.453
15	758.079	751.180	756.801	762.933	762.167
20	724.097	721.286	730.485	741.727	742.238
25	677.084	680.150	696.758	711.577	715.410
30	627.517	632.882	656.644	675.807	683.216
35	565.685	578.204	609.631	634.671	643.358
40	506.663	520.205	558.020	593.024	601.200
45	436.655	456.329	502.320	540.134	550.355
50	371.247	395.519	445.854	487.501	498.743
55	306.604	330.366	388.110	431.290	444.576
60	245.283	272.111	331.388	371.247	386.321
65	186.262	214.623	272.622	323.467	334.454
70	137.461	162.500	223.310	272.622	285.653
75	93.259	121.109	182.685	226.887	236.596
80	51.867	85.849	146.148	186.262	200.059
85	18.396	57.999	115.999	153.302	164.800
90	0.000	38.326	90.448	126.985	134.395
95	0.000	24.528	71.285	103.990	115.232
100	0.000	16.352	54.678	86.105	95.047
105	0.000	10.987	43.180	69.497	79.462
110	0.000	5.110	34.237	56.977	66.431
115	0.000	3.322	27.339	48.035	54.678
120	0.000	0.000	21.718	39.348	46.246
125	0.000	0.000	16.863	31.427	36.793
130	0.000	0.000	13.286	24.784	29.383
135	0.000	0.000	10.731	19.163	23.506
140	0.000	0.000	5.621	14.564	17.885
145	0.000	0.000	2.044	11.242	13.031
150	0.000	0.000	0.000	9.709	10.987
155	0.000	0.000	0.000	9.198	9.709
160	0.000	0.000	0.000	5.366	8.943
165	0.000	0.000	0.000	1.789	3.066
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	288.71	N.A.	11.80
0-30	609.48	N.A.	24.80
0-40	989.36	N.A.	40.30
0-60	1715.85	N.A.	69.90
0-80	2167.49	N.A.	88.30
0-90	2283.7	N.A.	93.10
10-90	2208.8	N.A.	90.00
20-40	700.65	N.A.	28.60
20-50	1085.62	N.A.	44.20
40-70	992.89	N.A.	40.50
60-80	451.64	N.A.	18.40
70-80	185.24	N.A.	7.60
80-90	116.21	N.A.	4.70
90-110	114.88	N.A.	4.70
90-120	141.35	N.A.	5.80
90-130	156.56	N.A.	6.40
90-150	167.94	N.A.	6.80
90-180	169.81	N.A.	6.90
110-180	54.93	N.A.	2.20
0-180	2453.51	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	74.90
10-20	213.81
20-30	320.77
30-40	379.87
40-50	384.97
50-60	341.52
60-70	266.40
70-80	185.24
80-90	116.21
90-100	71.12
100-110	43.76
110-120	26.47
120-130	15.21
130-140	8.05
140-150	3.33
150-160	1.55
160-170	0.32
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	90	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	87	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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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	14.0	15.5	14.4	15.9	16.4	17.0	18.5	17.5	18.9	19.4
	3H	15.2	16.5	15.7	17.0	17.5	19.2	20.6	19.7	21.1	21.6
	4H	15.6	16.9	16.1	17.3	17.9	20.3	21.6	20.8	22.1	22.6
	6H	15.8	17.0	16.3	17.5	18.0	21.4	22.6	21.9	23.1	23.6
	8H	15.8	17.0	16.4	17.5	18.1	21.9	23.1	22.5	23.6	24.2
	12H	15.8	16.9	16.4	17.5	18.1	22.6	23.7	23.1	24.2	24.8
4H	2H	14.9	16.2	15.4	16.7	17.2	17.3	18.6	17.8	19.1	19.6
	3H	16.4	17.5	16.9	18.0	18.6	19.8	20.9	20.3	21.4	22.0
	4H	16.9	17.9	17.4	18.4	19.0	21.0	22.0	21.5	22.6	23.2
	6H	17.2	18.1	17.7	18.6	19.3	22.3	23.2	22.9	23.8	24.4
	8H	17.3	18.1	17.8	18.7	19.3	23.0	23.8	23.5	24.4	25.0
	12H	17.3	18.1	17.9	18.7	19.3	23.7	24.5	24.3	25.1	25.7
8H	4H	17.6	18.4	18.2	19.0	19.6	21.2	22.0	21.7	22.6	23.2
	6H	18.1	18.8	18.7	19.4	20.1	22.6	23.3	23.2	23.9	24.6
	8H	18.3	18.9	18.9	19.5	20.2	23.4	24.1	24.0	24.7	25.3
	12H	18.4	18.9	19.0	19.6	20.3	24.4	24.9	25.0	25.5	26.2
12H	4H	17.8	18.6	18.4	19.2	19.8	21.2	21.9	21.8	22.5	23.2
	6H	18.4	19.1	19.1	19.7	20.3	22.7	23.3	23.3	23.9	24.6
	8H	18.7	19.3	19.3	19.9	20.6	23.5	24.1	24.1	24.7	25.4

Maximum UGR = 26.2

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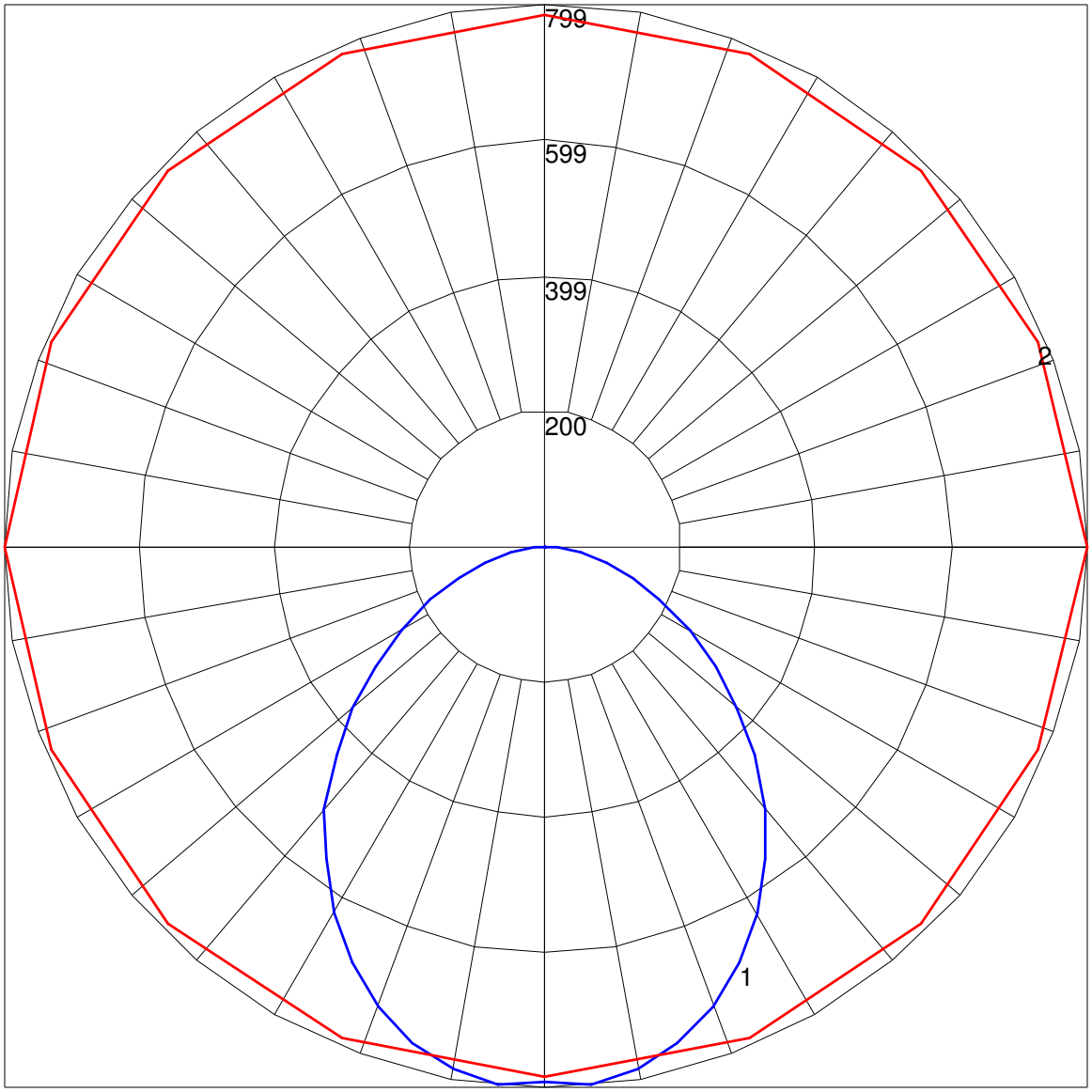
POLAR GRAPH



Maximum Candela = 798.959 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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