H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L94-835-DIM-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] 06-09-2023
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 72 LED 23.75", 68 LED 22.375"ARRAYS 4' 76R SURFACE LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[LUMCAT] 76R-4-L94-835-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9135
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
Total Luminaire Watts	68.6
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	15984	14649	15033
55	13630	12695	13367
65	10964	10516	11573
75	8504	8916	10000
85	3990	8038	9310

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	2950.022	2950.022	2950.022	2950.022	2950.022
5	2974.756	2935.752	2928.142	2928.142	2919.580
10	2920.531	2887.235	2889.138	2896.748	2887.235
15	2822.546	2796.860	2817.789	2840.621	2837.767
20	2696.021	2685.557	2719.804	2761.662	2763.564
25	2520.980	2532.395	2594.231	2649.407	2663.677
30	2336.425	2356.402	2444.875	2516.223	2543.811
35	2106.207	2152.821	2269.833	2363.062	2395.406
40	1886.454	1936.873	2077.668	2207.998	2238.440
45	1625.794	1699.045	1870.282	2011.076	2049.128
50	1382.258	1472.633	1660.041	1815.105	1856.963
55	1141.576	1230.048	1445.045	1605.816	1655.285
60	913.261	1013.148	1233.853	1382.258	1438.385
65	693.507	799.103	1015.051	1204.362	1245.269
70	511.806	605.035	831.448	1015.051	1063.568
75	347.229	450.922	680.189	844.766	880.916
80	193.117	319.641	544.151	693.507	744.878
85	68.495	215.948	431.896	570.788	613.597
90	0.000	142.697	336.765	472.803	500.391
95	0.000	91.326	265.416	387.184	429.042
100	0.000	60.884	203.581	320.593	353.888
105	0.000	40.906	160.772	258.757	295.858
110	0.000	19.026	127.476	212.143	247.341
115	0.000	12.367	101.790	178.847	203.581
120	0.000	0.000	80.862	146.502	172.188
125	0.000	0.000	62.787	117.012	136.989
130	0.000	0.000	49.468	92.277	109.401
135	0.000	0.000	39.955	71.348	87.521
140	0.000	0.000	20.929	54.225	66.592
145	0.000	0.000	7.611	41.858	48.517
150	0.000	0.000	0.000	36.150	40.906
155	0.000	0.000	0.000	34.247	36.150
160	0.000	0.000	0.000	19.978	33.296
165	0.000	0.000	0.000	6.659	11.416
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	1074.95	N.A.	11.80
0-30	2269.27	N.A.	24.80
0-40	3683.66	N.A.	40.30
0-60	6388.59	N.A.	69.90
0-80	8070.18	N.A.	88.30
0-90	8502.86	N.A.	93.10
10-90	8223.98	N.A.	90.00
20-40	2608.7	N.A.	28.60
20-50	4042.06	N.A.	44.20
40-70	3696.82	N.A.	40.50
60-80	1681.59	N.A.	18.40
70-80	689.71	N.A.	7.60
80-90	432.67	N.A.	4.70
90-110	427.73	N.A.	4.70
90-120	526.30	N.A.	5.80
90-130	582.93	N.A.	6.40
90-150	625.29	N.A.	6.80
90-180	632.26	N.A.	6.90
110-180	204.53	N.A.	2.20
0-180	9135.11	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	278.87
10-20	796.08
20-30	1194.32
30-40	1414.38
40-50	1433.36
50-60	1271.57
60-70	991.89
70-80	689.71
80-90	432.67
90-100	264.79
100-110	162.94
110-120	98.57
120-130	56.64
130-140	29.95
140-150	12.40
150-160	5.78
160-170	1.19
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	88	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	18.6	20.1	19.0	20.5	21.0	21.6	23.1	22.1	23.5	24.0
	3H	19.8	21.1	20.3	21.6	22.1	23.8	25.2	24.3	25.7	26.2
	4H	20.2	21.5	20.7	21.9	22.5	24.9	26.2	25.4	26.7	27.2
	6H	20.4	21.6	20.9	22.1	22.6	26.0	27.2	26.5	27.7	28.2
	8H	20.4	21.6	21.0	22.1	22.7	26.6	27.7	27.1	28.2	28.8
	12H	20.4	21.5	21.0	22.1	22.7	27.2	28.3	27.7	28.8	29.4
4H	2H	19.5	20.8	20.0	21.3	21.8	21.9	23.2	22.4	23.7	24.2
	3H	21.0	22.1	21.5	22.6	23.2	24.4	25.5	24.9	26.0	26.6
	4H	21.5	22.5	22.0	23.0	23.6	25.6	26.6	26.1	27.2	27.8
	6H	21.8	22.7	22.3	23.2	23.9	26.9	27.8	27.5	28.4	29.0
	8H	21.9	22.7	22.4	23.3	23.9	27.6	28.4	28.1	29.0	29.6
	12H	21.9	22.7	22.5	23.3	23.9	28.3	29.1	28.9	29.7	30.3
8H	4H	22.2	23.0	22.8	23.6	24.2	25.8	26.6	26.3	27.2	27.8
	6H	22.7	23.4	23.3	24.0	24.7	27.2	27.9	27.8	28.5	29.2
	8H	22.9	23.5	23.5	24.1	24.8	28.0	28.7	28.6	29.3	29.9
	12H	23.0	23.6	23.6	24.2	24.9	29.0	29.5	29.6	30.1	30.8
12H	4H	22.4	23.2	23.0	23.8	24.4	25.8	26.5	26.4	27.1	27.8
	6H	23.0	23.7	23.7	24.3	24.9	27.3	27.9	27.9	28.5	29.2
	8H	23.3	23.9	23.9	24.5	25.2	28.1	28.7	28.7	29.3	30.0

Maximum UGR = 30.8

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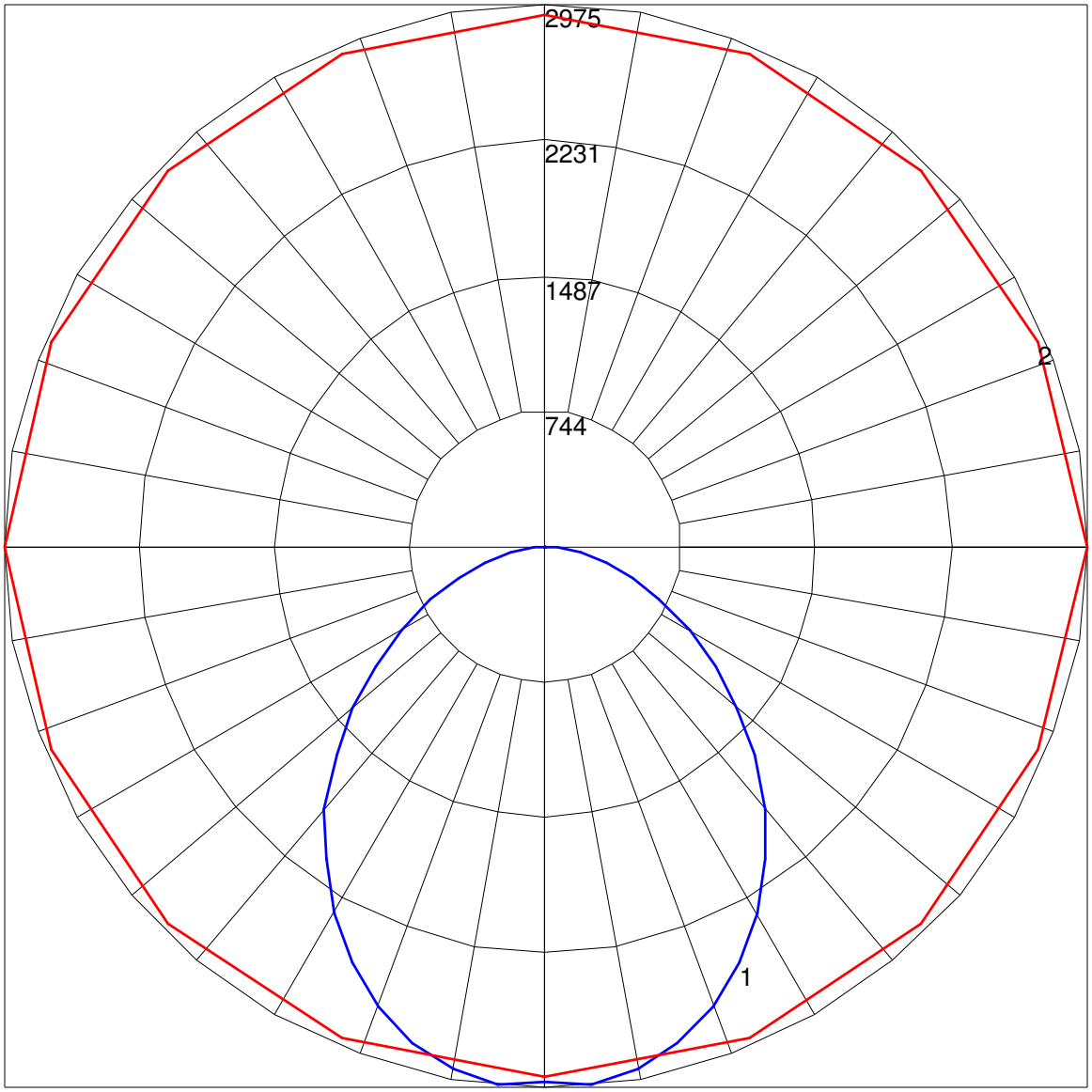
POLAR GRAPH



Maximum Candela = 2974.756 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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