H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.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] 10-27-2021
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' LED LENSED LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[LUMCAT] 76R-4-L52-835-(L33)-EM10W-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1461
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	146
Total Luminaire Watts	10
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	2556	2342	2404
55	2179	2030	2137
65	1753	1682	1850
75	1360	1426	1599
85	638	1285	1489

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.IES

CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	471.694	471.694	471.694	471.694	471.694
5	475.649	469.412	468.195	468.195	466.826
10	466.978	461.654	461.959	463.176	461.654
15	451.311	447.204	450.550	454.201	453.745
20	431.080	429.407	434.883	441.576	441.880
25	403.092	404.917	414.805	423.627	425.909
30	373.583	376.777	390.923	402.331	406.743
35	336.772	344.225	362.935	377.842	383.013
40	301.635	309.696	332.209	353.048	357.915
45	259.956	271.669	299.049	321.561	327.645
50	221.016	235.467	265.432	290.226	296.919
55	182.532	196.678	231.055	256.762	264.672
60	146.026	161.997	197.287	221.016	229.991
65	110.888	127.773	162.302	192.572	199.112
70	81.835	96.742	132.944	162.302	170.059
75	55.520	72.100	108.759	135.074	140.854
80	30.878	51.109	87.007	110.888	119.102
85	10.952	34.529	69.058	91.266	98.111
90	0.000	22.817	53.847	75.599	80.010
95	0.000	14.603	42.439	61.909	68.602
100	0.000	9.735	32.552	51.261	56.585
105	0.000	6.541	25.707	41.374	47.306
110	0.000	3.042	20.383	33.921	39.549
115	0.000	1.977	16.276	28.597	32.552
120	0.000	0.000	12.929	23.425	27.532
125	0.000	0.000	10.039	18.710	21.904
130	0.000	0.000	7.910	14.755	17.493
135	0.000	0.000	6.389	11.408	13.994
140	0.000	0.000	3.346	8.670	10.648
145	0.000	0.000	1.217	6.693	7.758
150	0.000	0.000	0.000	5.780	6.541
155	0.000	0.000	0.000	5.476	5.780
160	0.000	0.000	0.000	3.194	5.324
165	0.000	0.000	0.000	1.065	1.825
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

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	171.88	N.A.	11.80
0-30	362.85	N.A.	24.80
0-40	589.00	N.A.	40.30
0-60	1021.5	N.A.	69.90
0-80	1290.38	N.A.	88.30
0-90	1359.56	N.A.	93.10
10-90	1314.97	N.A.	90.00
20-40	417.12	N.A.	28.60
20-50	646.31	N.A.	44.20
40-70	591.10	N.A.	40.50
60-80	268.88	N.A.	18.40
70-80	110.28	N.A.	7.60
80-90	69.18	N.A.	4.70
90-110	68.39	N.A.	4.70
90-120	84.15	N.A.	5.80
90-130	93.21	N.A.	6.40
90-150	99.98	N.A.	6.80
90-180	101.10	N.A.	6.90
110-180	32.70	N.A.	2.20
0-180	1460.66	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	44.59
10-20	127.29
20-30	190.97
30-40	226.15
40-50	229.19
50-60	203.32
60-70	158.60
70-80	110.28
80-90	69.18
90-100	42.34
100-110	26.05
110-120	15.76
120-130	9.06
130-140	4.79
140-150	1.98
150-160	0.92
160-170	0.19
170-180	0.00

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.IES

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

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.IES

UGR TABLE - CORRECTED

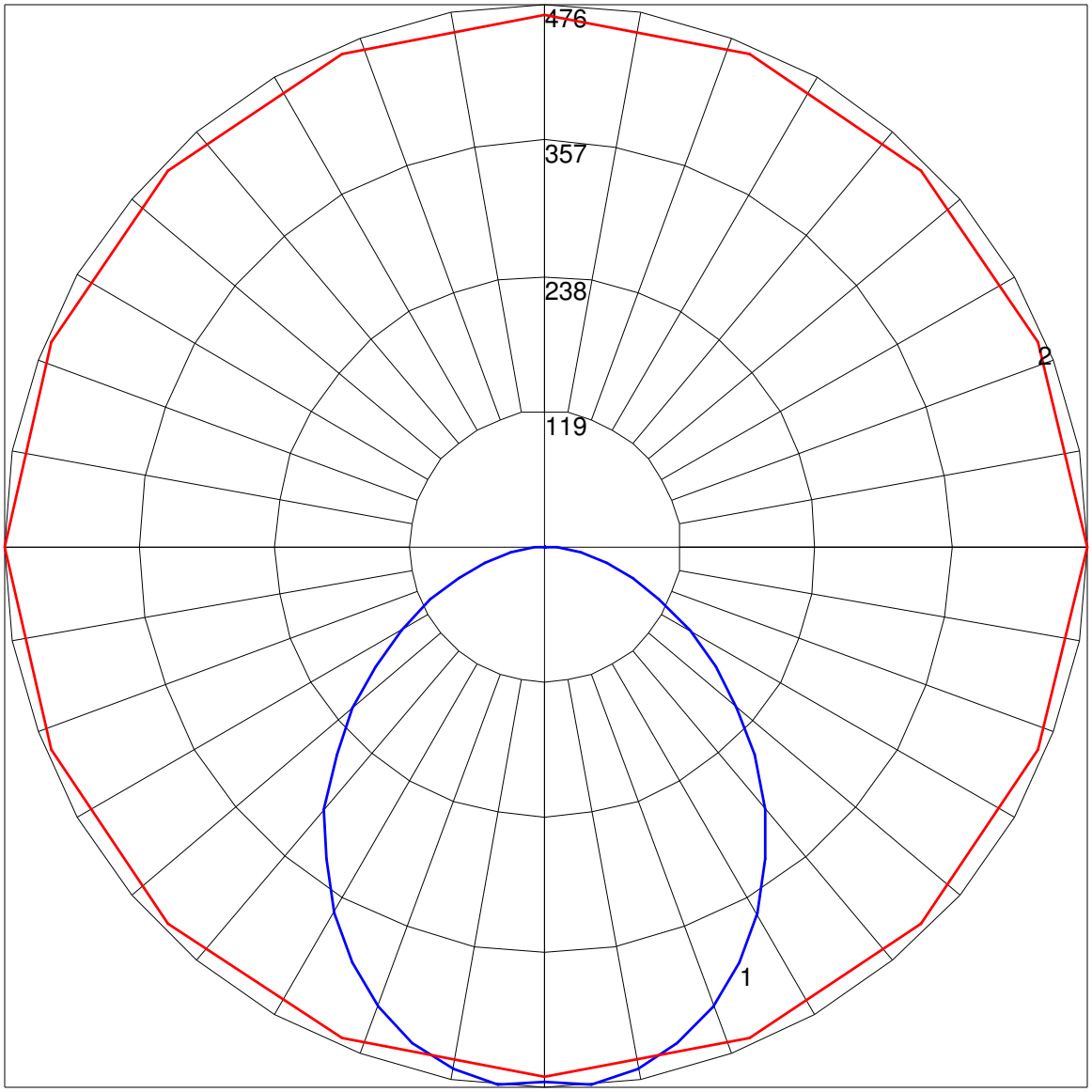
Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	12.2	13.7	12.6	14.1	14.6	15.2	16.7	15.7	17.1	17.6
	3H	13.4	14.7	13.9	15.2	15.7	17.4	18.8	17.9	19.3	19.8
	4H	13.8	15.1	14.3	15.5	16.1	18.5	19.8	19.0	20.3	20.8
	6H	14.0	15.2	14.5	15.7	16.2	19.6	20.8	20.1	21.3	21.8
	8H	14.0	15.2	14.6	15.7	16.3	20.1	21.3	20.7	21.8	22.4
	12H	14.0	15.1	14.6	15.7	16.3	20.8	21.9	21.3	22.4	23.0
4H	2H	13.1	14.4	13.6	14.9	15.4	15.5	16.8	16.0	17.3	17.8
	3H	14.6	15.7	15.1	16.2	16.8	18.0	19.1	18.5	19.6	20.2
	4H	15.1	16.1	15.6	16.6	17.2	19.2	20.2	19.7	20.8	21.4
	6H	15.4	16.3	15.9	16.8	17.5	20.5	21.4	21.1	22.0	22.6
	8H	15.5	16.3	16.0	16.9	17.5	21.2	22.0	21.7	22.6	23.2
	12H	15.5	16.3	16.1	16.9	17.5	21.9	22.7	22.5	23.3	23.9
8H	4H	15.8	16.6	16.4	17.2	17.8	19.4	20.2	19.9	20.8	21.4
	6H	16.3	17.0	16.9	17.6	18.3	20.8	21.5	21.4	22.1	22.8
	8H	16.5	17.1	17.1	17.7	18.4	21.6	22.3	22.2	22.9	23.5
	12H	16.6	17.1	17.2	17.8	18.5	22.6	23.1	23.2	23.7	24.4
12H	4H	16.0	16.8	16.6	17.4	18.0	19.4	20.1	20.0	20.7	21.3
	6H	16.6	17.3	17.3	17.9	18.5	20.9	21.5	21.5	22.1	22.8
	8H	16.9	17.5	17.5	18.1	18.8	21.7	22.3	22.3	22.9	23.6

Maximum UGR = 24.4

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L33)-EM10W-DIM-UNV_EM MODE.IES

POLAR GRAPH



Maximum Candela = 475.649 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.)

Photometric Toolbox® Copyright 2002-2019 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.