



IES INDOOR REPORT

PHOTOMETRIC FILENAME : IHB4-LED-18L-DA-50.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] 3127

[TESTLAB] TUV SUD America

[ISSUEDATE] 04/19/21

[MANUFAC] LSI INDUSTRIES, INC

[LUMCAT] IHB4-LED-18L-DA-50

[OTHER] TEST PROCEDURE: IESNA LM-79-08

[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED

[OTHER] SCALED FROM ORIGINAL TEST DATA

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] Indoor

[SEARCH_COLORTEMP] 5000

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	19880
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	154.61
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.60 ft
Luminous Height	0.00 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	29150	28861	28299
55	26787	26469	25046
65	24421	23936	21381
75	23006	21979	17521
85	31320	27111	13349

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07
2.5	7552.13	7558.88	7544.30	7549.78	7551.09	7549.77	7530.47	7557.76	7561.57	7557.76
5.0	7530.28	7521.59	7489.25	7515.05	7526.69	7524.25	7506.31	7529.32	7529.64	7529.32
7.5	7480.29	7470.44	7440.45	7469.35	7480.47	7478.36	7459.85	7481.06	7477.15	7481.06
10.0	7409.23	7398.77	7370.93	7404.11	7413.10	7409.82	7390.43	7411.40	7405.84	7411.40
12.5	7313.32	7303.39	7278.15	7312.85	7327.22	7320.30	7302.05	7320.43	7316.92	7320.43
15.0	7196.13	7190.20	7163.46	7203.49	7221.74	7211.35	7194.14	7210.48	7205.91	7210.48
17.5	7056.41	7062.79	7035.35	7078.97	7096.81	7083.65	7066.87	7081.07	7073.28	7081.07
20.0	6901.29	6912.14	6892.11	6936.19	6952.54	6937.36	6921.15	6933.99	6917.59	6933.99
22.5	6744.14	6745.61	6730.18	6772.09	6786.22	6769.35	6755.31	6770.06	6750.96	6770.06
25.0	6576.41	6564.10	6548.19	6584.70	6599.33	6574.69	6565.65	6583.22	6571.05	6583.22
27.5	6382.03	6364.48	6346.39	6379.48	6390.01	6360.88	6358.81	6379.20	6384.07	6379.20
30.0	6162.78	6146.52	6126.56	6155.24	6161.38	6134.68	6139.07	6169.87	6177.64	6169.87
32.5	5928.84	5917.13	5898.83	5916.35	5915.73	5891.39	5904.87	5941.80	5951.29	5941.80
35.0	5686.20	5681.12	5662.00	5665.20	5648.96	5633.41	5658.02	5697.37	5699.63	5697.37
37.5	5432.47	5429.06	5411.95	5400.99	5370.54	5358.82	5394.43	5433.44	5443.38	5433.44
40.0	5172.45	5162.32	5139.37	5114.79	5077.38	5070.17	5112.54	5160.76	5176.58	5160.76
42.5	4899.69	4883.11	4845.07	4814.59	4774.54	4770.04	4824.94	4886.42	4921.54	4886.42
45.0	4600.19	4603.15	4554.55	4515.00	4465.79	4474.46	4541.51	4612.32	4653.11	4612.32
47.5	4309.69	4321.50	4270.48	4210.67	4151.07	4162.94	4259.09	4322.46	4359.98	4322.46
50.0	4029.74	4040.82	3985.88	3906.79	3834.73	3850.37	3960.63	4017.02	4057.64	4017.02
52.5	3729.06	3745.27	3691.92	3592.45	3519.05	3541.08	3655.43	3706.87	3744.80	3706.87
55.0	3428.96	3442.72	3388.30	3285.11	3206.13	3233.80	3353.15	3415.62	3448.09	3415.62
57.5	3133.45	3150.57	3089.44	2985.78	2892.49	2933.07	3069.80	3135.48	3162.10	3135.48
60.0	2850.36	2871.38	2805.03	2688.39	2591.11	2638.80	2793.00	2852.06	2892.47	2852.06
62.5	2576.56	2602.77	2526.72	2401.62	2296.66	2350.89	2509.57	2574.90	2612.27	2574.90
65.0	2303.31	2330.53	2257.57	2125.48	2016.64	2073.17	2233.42	2292.45	2322.50	2292.45
67.5	2026.47	2059.18	1994.11	1859.37	1745.55	1807.07	1965.55	2018.56	2041.51	2018.56
70.0	1777.54	1800.69	1737.30	1601.18	1487.15	1557.04	1708.97	1766.86	1780.32	1766.86
72.5	1541.66	1561.49	1495.26	1357.25	1242.11	1316.65	1475.61	1538.52	1559.56	1538.52
75.0	1328.89	1341.20	1269.53	1128.22	1012.03	1091.76	1255.57	1326.51	1352.46	1326.51
77.5	1130.83	1144.35	1062.48	916.61	797.84	882.69	1047.27	1119.49	1156.30	1119.49
80.0	933.24	955.49	869.42	720.13	601.11	691.72	851.09	922.85	958.95	922.85
82.5	762.94	775.96	691.19	541.69	422.00	517.46	671.74	744.68	775.41	744.68
85.0	609.21	609.78	527.34	381.83	259.65	359.62	512.47	589.51	615.26	589.51
87.5	470.20	462.68	382.48	241.92	114.91	226.71	376.48	456.99	481.59	456.99
90.0	355.92	351.99	276.65	139.89	24.41	137.39	280.67	361.71	380.66	361.71
92.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Angles **Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07	7551.07
2.5	7530.47	7549.77	7551.09	7549.78	7544.30	7558.88	7552.13
5.0	7506.31	7524.25	7526.69	7515.05	7489.25	7521.59	7530.28
7.5	7459.85	7478.36	7480.47	7469.35	7440.45	7470.44	7480.29
10.0	7390.43	7409.82	7413.10	7404.11	7370.93	7398.77	7409.23
12.5	7302.05	7320.30	7327.22	7312.85	7278.15	7303.39	7313.32
15.0	7194.14	7211.35	7221.74	7203.49	7163.46	7190.20	7196.13
17.5	7066.87	7083.65	7096.81	7078.97	7035.35	7062.79	7056.41
20.0	6921.15	6937.36	6952.54	6936.19	6892.11	6912.14	6901.29
22.5	6755.31	6769.35	6786.22	6772.09	6730.18	6745.61	6744.14
25.0	6565.65	6574.69	6599.33	6584.70	6548.19	6564.10	6576.41
27.5	6358.81	6360.88	6390.01	6379.48	6346.39	6364.48	6382.03
30.0	6139.07	6134.68	6161.38	6155.24	6126.56	6146.52	6162.78
32.5	5904.87	5891.39	5915.73	5916.35	5898.83	5917.13	5928.84
35.0	5658.02	5633.41	5648.96	5665.20	5662.00	5681.12	5686.20
37.5	5394.43	5358.82	5370.54	5400.99	5411.95	5429.06	5432.47
40.0	5112.54	5070.17	5077.38	5114.79	5139.37	5162.32	5172.45
42.5	4824.94	4770.04	4774.54	4814.59	4845.07	4883.11	4899.69
45.0	4541.51	4474.46	4465.79	4515.00	4554.55	4603.15	4600.19
47.5	4259.09	4162.94	4151.07	4210.67	4270.48	4321.50	4309.69
50.0	3960.63	3850.37	3834.73	3906.79	3985.88	4040.82	4029.74
52.5	3655.43	3541.08	3519.05	3592.45	3691.92	3745.27	3729.06
55.0	3353.15	3233.80	3206.13	3285.11	3388.30	3442.72	3428.96
57.5	3069.80	2933.07	2892.49	2985.78	3089.44	3150.57	3133.45
60.0	2793.00	2638.80	2591.11	2688.39	2805.03	2871.38	2850.36
62.5	2509.57	2350.89	2296.66	2401.62	2526.72	2602.77	2576.56
65.0	2233.42	2073.17	2016.64	2125.48	2257.57	2330.53	2303.31
67.5	1965.55	1807.07	1745.55	1859.37	1994.11	2059.18	2026.47
70.0	1708.97	1557.04	1487.15	1601.18	1737.30	1800.69	1777.54
72.5	1475.61	1316.65	1242.11	1357.25	1495.26	1561.49	1541.66
75.0	1255.57	1091.76	1012.03	1128.22	1269.53	1341.20	1328.89
77.5	1047.27	882.69	797.84	916.61	1062.48	1144.35	1130.83
80.0	851.09	691.72	601.11	720.13	869.42	955.49	933.24

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CANDELA TABULATION - (Cont.)

82.5	671.74	517.46	422.00	541.69	691.19	775.96	762.94
85.0	512.47	359.62	259.65	381.83	527.34	609.78	609.21
87.5	376.48	226.71	114.91	241.92	382.48	462.68	470.20
90.0	280.67	137.39	24.41	139.89	276.65	351.99	355.92
92.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2744.01	N.A.	13.80
0-30	5770.06	N.A.	29.00
0-40	9310.99	N.A.	46.80
0-60	15815.17	N.A.	79.60
0-80	19302.88	N.A.	97.10
0-90	19846.75	N.A.	99.80
10-90	19132.81	N.A.	96.20
20-40	6566.98	N.A.	33.00
20-50	10075.00	N.A.	50.70
40-70	8692.16	N.A.	43.70
60-80	3487.71	N.A.	17.50
70-80	1299.73	N.A.	6.50
80-90	543.86	N.A.	2.70
90-110	33.25	N.A.	0.20
90-120	33.25	N.A.	0.20
90-130	33.25	N.A.	0.20
90-150	33.25	N.A.	0.20
90-180	33.25	N.A.	0.20
110-180	0.00	N.A.	0.00
0-180	19880.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	713.94
10-20	2030.06
20-30	3026.06
30-40	3540.93
40-50	3508.01
50-60	2996.17
60-70	2187.98
70-80	1299.73
80-90	543.86
90-100	33.25
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

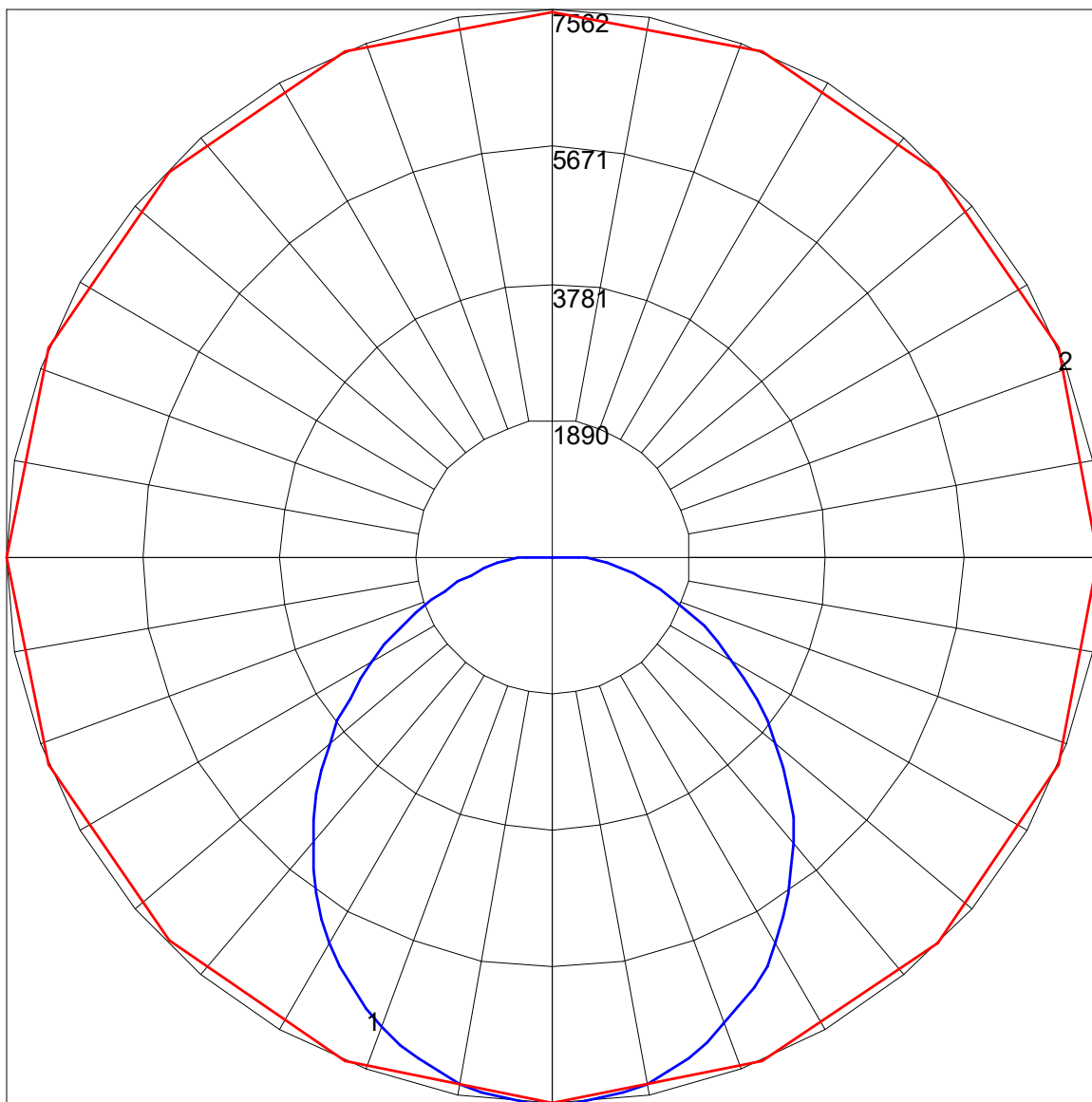
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	109	104	99	96	106	101	98	94	97	94	91	93	91	88	90	87	85	83
2	99	91	84	78	96	89	83	77	85	80	75	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

POLAR GRAPH



Maximum Candela = 7561.57 Located At Horizontal Angle = 180, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)