



IES INDOOR REPORT
PHOTOMETRIC FILENAME : IHB4-LED-15L-DA-40.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 3125
[TESTLAB] TUV SUD America
[ISSUE DATE] 04/19/21
[MANUFAC] LSI INDUSTRIES, INC
[LUMCAT] IHB4-LED-15L-DA-40
[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] 4000

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	14680
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	142
Total Luminaire Watts	103.13
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
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	21637	21595	21284
55	19419	19589	18703
65	16938	17355	15819
75	15458	15445	12644
85	20485	18091	9248

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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	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73
2.5	5613.20	5614.61	5608.05	5607.51	5612.36	5611.50	5598.55	5617.20	5617.19	5617.20
5.0	5592.89	5587.73	5567.23	5585.96	5594.11	5595.45	5581.30	5597.55	5596.82	5597.55
7.5	5556.78	5549.60	5529.91	5552.22	5564.66	5563.37	5547.84	5563.77	5560.12	5563.77
10.0	5505.48	5498.31	5478.53	5503.43	5519.31	5515.00	5500.19	5513.06	5507.93	5513.06
12.5	5436.36	5430.57	5413.59	5440.81	5456.61	5453.68	5438.22	5447.60	5439.80	5447.60
15.0	5354.37	5347.56	5333.63	5363.79	5381.65	5379.56	5361.19	5367.29	5356.51	5367.29
17.5	5257.64	5250.52	5238.38	5272.87	5294.80	5291.34	5269.20	5274.53	5262.54	5274.53
20.0	5155.09	5145.26	5133.51	5168.42	5193.19	5188.06	5165.53	5166.97	5156.15	5166.97
22.5	5035.14	5026.74	5018.08	5052.69	5073.93	5068.62	5044.98	5043.01	5034.43	5043.01
25.0	4902.36	4893.64	4887.63	4918.97	4941.10	4931.46	4906.75	4904.46	4893.66	4904.46
27.5	4754.01	4746.78	4740.57	4767.92	4789.23	4776.55	4754.51	4754.48	4744.82	4754.48
30.0	4602.00	4582.87	4579.16	4605.58	4621.74	4611.06	4593.09	4594.41	4589.01	4594.41
32.5	4422.69	4413.89	4408.48	4428.92	4441.12	4434.94	4421.45	4426.63	4420.42	4426.63
35.0	4240.55	4239.14	4229.78	4245.02	4248.98	4245.58	4237.27	4248.05	4244.10	4248.05
37.5	4043.88	4051.52	4042.25	4046.43	4043.34	4040.60	4038.67	4053.33	4058.26	4053.33
40.0	3847.29	3844.92	3838.79	3832.09	3823.60	3821.45	3826.07	3848.47	3856.62	3848.47
42.5	3641.83	3632.11	3625.15	3608.96	3592.95	3597.49	3612.49	3644.65	3646.23	3644.65
45.0	3414.45	3415.94	3407.97	3380.43	3358.80	3367.00	3394.77	3434.68	3429.42	3434.68
47.5	3190.82	3194.84	3188.28	3151.58	3121.10	3132.55	3175.66	3214.37	3217.47	3214.37
50.0	2976.56	2968.43	2967.94	2917.08	2879.07	2896.76	2948.20	2993.30	2995.37	2993.30
52.5	2728.76	2737.34	2737.02	2681.08	2635.48	2655.11	2716.97	2765.18	2764.85	2765.18
55.0	2485.85	2505.18	2507.54	2446.83	2394.12	2418.40	2492.32	2539.26	2534.54	2539.26
57.5	2260.64	2278.17	2280.32	2213.41	2160.68	2188.76	2267.65	2312.31	2295.84	2312.31
60.0	2036.50	2055.96	2060.95	1988.34	1930.11	1963.68	2051.99	2090.14	2074.94	2090.14
62.5	1815.75	1837.50	1847.41	1765.74	1705.32	1747.08	1836.73	1872.19	1863.69	1872.19
65.0	1597.53	1630.36	1636.85	1557.22	1492.00	1536.72	1629.76	1661.79	1656.28	1661.79
67.5	1399.60	1433.15	1436.50	1352.40	1285.92	1334.32	1428.43	1461.79	1451.14	1461.79
70.0	1222.02	1244.25	1244.55	1159.01	1088.56	1142.58	1239.16	1271.76	1254.76	1271.76
72.5	1053.96	1070.37	1062.57	973.34	901.90	958.08	1059.14	1094.20	1076.53	1094.20
75.0	892.90	906.82	892.14	804.57	730.37	791.17	888.23	927.45	922.36	927.45
77.5	749.89	759.08	736.41	648.01	573.93	637.59	735.43	774.93	784.34	774.93
80.0	619.46	625.98	594.47	504.20	428.71	495.41	595.55	640.58	652.38	640.58
82.5	500.62	503.74	467.85	374.40	297.39	367.67	467.57	518.45	530.26	518.45
85.0	398.45	395.18	351.88	257.87	179.88	254.15	352.98	406.69	417.72	406.69
87.5	306.99	297.80	252.36	159.81	79.54	157.69	254.27	310.60	319.92	310.60
90.0	238.46	229.93	182.96	94.07	17.35	91.57	181.27	232.25	239.82	232.25
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	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73	5610.73
2.5	5598.55	5611.50	5612.36	5607.51	5608.05	5614.61	5613.20
5.0	5581.30	5595.45	5594.11	5585.96	5567.23	5587.73	5592.89
7.5	5547.84	5563.37	5564.66	5552.22	5529.91	5549.60	5556.78
10.0	5500.19	5515.00	5519.31	5503.43	5478.53	5498.31	5505.48
12.5	5438.22	5453.68	5456.61	5440.81	5413.59	5430.57	5436.36
15.0	5361.19	5379.56	5381.65	5363.79	5333.63	5347.56	5354.37
17.5	5269.20	5291.34	5294.80	5272.87	5238.38	5250.52	5257.64
20.0	5165.53	5188.06	5193.19	5168.42	5133.51	5145.26	5155.09
22.5	5044.98	5068.62	5073.93	5052.69	5018.08	5026.74	5035.14
25.0	4906.75	4931.46	4941.10	4918.97	4887.63	4893.64	4902.36
27.5	4754.51	4776.55	4789.23	4767.92	4740.57	4746.78	4754.01
30.0	4593.09	4611.06	4621.74	4605.58	4579.16	4582.87	4602.00
32.5	4421.45	4434.94	4441.12	4428.92	4408.48	4413.89	4422.69
35.0	4237.27	4245.58	4248.98	4245.02	4229.78	4239.14	4240.55
37.5	4038.67	4040.60	4043.34	4046.43	4042.25	4051.52	4043.88
40.0	3826.07	3821.45	3823.60	3832.09	3838.79	3844.92	3847.29
42.5	3612.49	3597.49	3592.95	3608.96	3625.15	3632.11	3641.83
45.0	3394.77	3367.00	3358.80	3380.43	3407.97	3415.94	3414.45
47.5	3175.66	3132.55	3121.10	3151.58	3188.28	3194.84	3190.82
50.0	2948.20	2896.76	2879.07	2917.08	2967.94	2968.43	2976.56
52.5	2716.97	2655.11	2635.48	2681.08	2737.02	2737.34	2728.76
55.0	2492.32	2418.40	2394.12	2446.83	2507.54	2505.18	2485.85
57.5	2267.65	2188.76	2160.68	2213.41	2280.32	2278.17	2260.64
60.0	2051.99	1963.68	1930.11	1988.34	2060.95	2055.96	2036.50
62.5	1836.73	1747.08	1705.32	1765.74	1847.41	1837.50	1815.75
65.0	1629.76	1536.72	1492.00	1557.22	1636.85	1630.36	1597.53
67.5	1428.43	1334.32	1285.92	1352.40	1436.50	1433.15	1399.60
70.0	1239.16	1142.58	1088.56	1159.01	1244.55	1244.25	1222.02
72.5	1059.14	958.08	901.90	973.34	1062.57	1070.37	1053.96
75.0	888.23	791.17	730.37	804.57	892.14	906.82	892.90
77.5	735.43	637.59	573.93	648.01	736.41	759.08	749.89
80.0	595.55	495.41	428.71	504.20	594.47	625.98	619.46

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CANDELA TABULATION - (Cont.)

82.5	467.57	367.67	297.39	374.40	467.85	503.74	500.62
85.0	352.98	254.15	179.88	257.87	351.88	395.18	398.45
87.5	254.27	157.69	79.54	159.81	252.36	297.80	306.99
90.0	181.27	91.57	17.35	94.07	182.96	229.93	238.46
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	2042.73	N.A.	13.90
0-30	4302.7	N.A.	29.30
0-40	6952.17	N.A.	47.40
0-60	11788.73	N.A.	80.30
0-80	14289.24	N.A.	97.30
0-90	14658.27	N.A.	99.90
10-90	14127.49	N.A.	96.20
20-40	4909.44	N.A.	33.40
20-50	7529.35	N.A.	51.30
40-70	6422.46	N.A.	43.70
60-80	2500.51	N.A.	17.00
70-80	914.61	N.A.	6.20
80-90	369.03	N.A.	2.50
90-110	21.73	N.A.	0.10
90-120	21.73	N.A.	0.10
90-130	21.73	N.A.	0.10
90-150	21.73	N.A.	0.10
90-180	21.73	N.A.	0.10
110-180	0.00	N.A.	0.00
0-180	14680.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	530.77
10-20	1511.96
20-30	2259.97
30-40	2649.47
40-50	2619.91
50-60	2216.64
60-70	1585.9
70-80	914.61
80-90	369.03
90-100	21.73
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

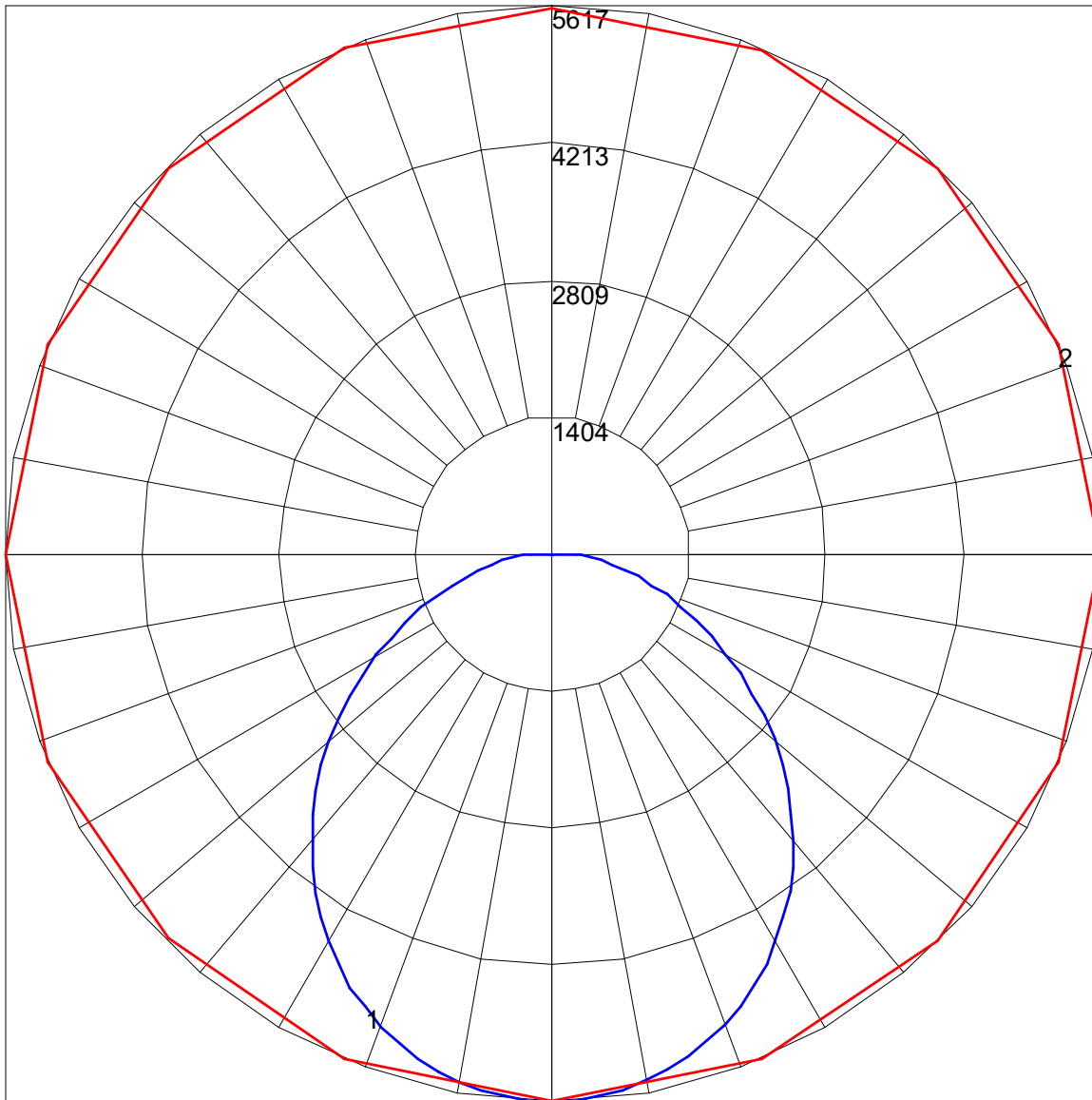
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	68	60	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	31	27	25

POLAR GRAPH



Maximum Candela = 5617.2 Located At Horizontal Angle = 157.5, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (157.5 - 337.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)