

**CS**<sup>TM</sup> Control Solutions available



## Litewave™ HE

High Efficiency Lensed Recessed  
G-D-LHE, NG-D-LHE,  
SS-D-LHE, R-D-LHE  
Recessed Direct

### Product Description

Recessed enclosed fixture with high-efficiency extruded acrylic one-piece lens and high-reflectance white reflector. Cradle to Cradle Silver Certified. UL listed.

### Ordering Guide

Product, lamping, & length								Options				
G -	D -	LHE	2	4	2	T5HO -	HE-	CWL -	TW -	LP/ELB -	-	120
Mounting	Distribution	Series	Width (ft)	Length (ft)	Lamp Count	Lamp Type	Lens	Finish	Tandem Wiring	Ballasts	Other options	Volts
<b>G</b> 15/16" grid ceiling <b>NG</b> 9/16" narrow face grid ceiling <b>SS</b> 9/16" screw slot grid ceiling <b>R</b> Drywall ceiling	<b>D</b> Direct	LHE 2' x 2' <b>10</b>	2 →	2 →	1,2,3 →	T5HO T5 T8	HE	CWL (High Reflectance White) is standard	-- TW	LP/ELB is std  DO/PWR LPD/ECO LPD/MK7 LPD/D10 LPD/CS/e see <b>Ballast Options</b>	CCEA F LP/EF  see <b>Other Options</b>	120 277
		LHE 2' x 4' <b>10</b>	2 →	4 →	1,2,3 →	see notes						
		LHE 1' x 4'	1 →	4 →	1,2,3 →							

**notes:**  
Lamp Count = total number of lamps in the fixture  
**For Ordering guide information in shaded areas, choose selection by reading ACROSS the shaded areas for correct specifications.**  
Efficiency is greatly reduced in 3-lamp T5HO operation due to high operating temperatures.

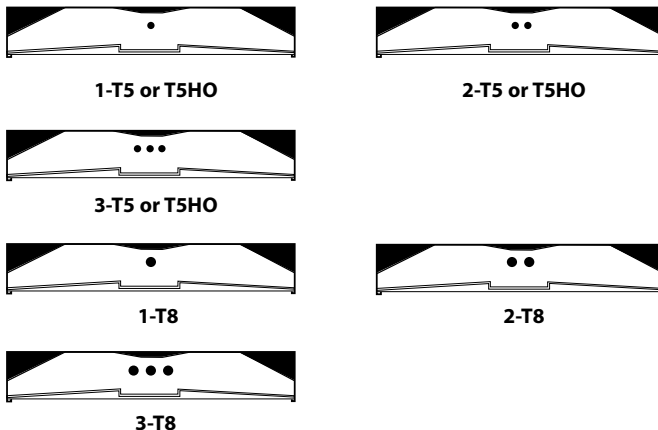
**G-D-LHE242T5HO-HE-CWL-TW-LP/ELB-120** is a typical catalog number for a 2-lamp 2x4 high output T5 fixture with High Efficiency lens, high reflectance white finish, tandem-wired electronic ballast, 120 volts.

### **10 DAY** LiteSpeed Quick-SHIP

Many configurations of this fixture are available in our Litespeed 10-day quick-ship program. The "10-day" icon **10** in the descriptions below shows which options are available in Litespeed. Litespeed orders are shipped within 10 working days of receipt of a released, cleared order. An "LS" prefix is required in front of the ordering number to have the order handled as Litespeed. Other configurations not indicated here may be available for 10-day shipment; contact Customer Service for availability. Some restrictions may apply to large orders. All Litespeed fixtures are supplied in textured white finish (TCWM).

#### Cross-section lamping

(shown in 2' x 4' **10** or 2' x 2' **10** also available in 1' x 4')



### Ballast Options **CS**<sup>e</sup>

Specify in place of LP/ELB, contact factory for availability:

**DO/PWR** Osram Powersense dimming ballast

**LPD/ECO** Lutron Eco-10 dimming ballast

**LPD/MK7** Advance Mark VII dimming ballast

**LPD/D10** Universal Lighting Technologies dimming ballast

To have the fixture enabled for Lutron EcoSystem compatibility:

**LPD/CS/e** EcoSystem low-profile dimming electronic ballasts installed at the factory, along with all required internal EcoSystem wiring. For other configurations of the Lutron EcoSystem components consult [litecontrol.com/cs](http://litecontrol.com/cs) or contact the factory.

### Tandem Wiring & Circuiting Options

**TW** **10** Fixtures wired with two circuits. For 2-lamp in cross section fixtures, the fixture is wired such that the in-line lamps are switched separately. For 3-lamp in cross section fixtures, the fixture is wired such that the center lamp is switched separately from the outer lamps.

### Other Options

**CCEA** City of Chicago Environmental Air Modification.

**F** **10** Fuse installed, slow or fast blow, determined by Litecontrol.

**LP/EF** **10** Low-profile emergency fluorescent ballast installed, manufactured by a UL-listed manufacturer, that will operate one lamp for 1 1/2 hours during a power outage.

#### Questions to Ask

1. Ceiling type? 2. Fixture dimensions and lamping? 3. Tandem wiring?
4. Ballast Options? 5. 120 or 277 volt?



# Litewave HE G-D-LHE, NG-D-LHE, SS-D-LHE, R-D-LHE

## Specifications

**HOUSING.** Die-formed steel housing assembly and reflector. Wiring access plate is provided on back of housing, for flexible conduit attachment.

**REFLECTORS.** Die-formed steel with high-reflectance white finish.

**LAMPING.** All 2-foot wide and 1-foot wide fixtures available in one, two- or three-lamp T8, T5, and T5HO cross-sections.

**LENS.** High efficiency one-piece acrylic extruded lens, with a central dropped rectilinear area for better lamp diffusion.

**BALLAST.** Low-profile, electronic, high power factor, thermally protected Class P, Sound Rated A, manufactured by a UL Listed manufacturer, as available, determined by Litecontrol. Ballasts with a voltage range of 120 to 277 will be used when fixture configuration and ballast availability allow. The minimum number of ballasts will be used.

**TANDEM WIRING.** When selected from Ordering guide, fixtures wired to switch lamps separately, providing two levels of light.

**MOUNTING.** The fixture is intended for installation in 2' x 2', 2' x 4' or 1' x 4' standard exposed inverted T-bar grid ceiling (NEMA type **G**), screw slot ceiling (**SS**), or narrow face grid ceiling (**NG**). Holes provided for wire or chain mounting support to building structure.

**CERTIFICATION.** Fixture and electrical components are UL and/or CUL Listed (UL LISTED) and bear the I.B.E.W., A.F. of L. label. This fixture is Cradle to Cradle Certified<sup>SM</sup> Silver by MBDC.

Note: Litecontrol reserves the right to change specifications without notice for product development and improvement.

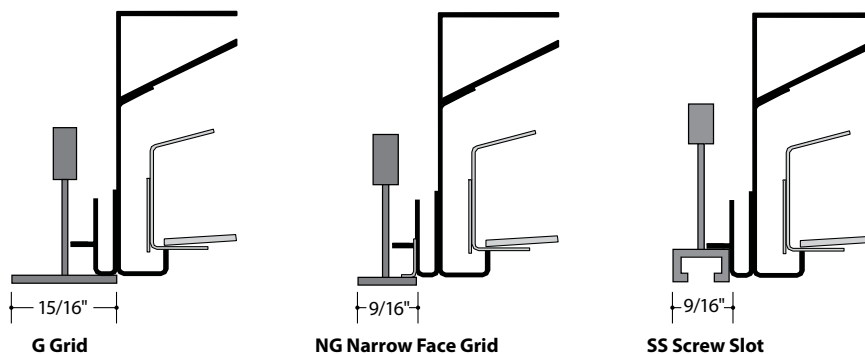
## Planning for Installation

### T-bar On-centers Spacing

Series Number	Width	Length
LHE22	24"	24"
LHE24	24"	48"
LHE14	12"	48"

Row mounting of fixtures not available.

### Grid Mounting Options



## Efficiency Data

Width	Length	T8	Efficiency	T5	Efficiency	T5HO	Efficiency
2	4	1-T8	83	1-T5	83	1-T5HO	82
2	4	2-T8	82	2-T5	84	2-T5HO	83
2	4	3-T8	72	3-T5	77	3-T5HO	*
2	2	2-T8	75	2-T5	74	2-T5HO	72

\* Efficiency is greatly reduced in 3-lamp T5HO operation due to high operating temperatures.

Complete photometric data available visit [litecontrol.com](http://litecontrol.com).

Cradle to Cradle Certified<sup>SM</sup> is a certification mark of MBDC.

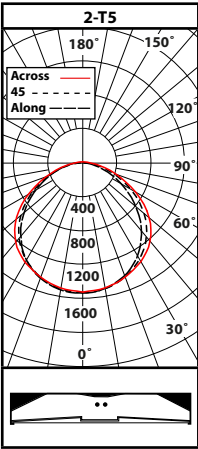
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LITECONTROL

100 Hawks Avenue Hanson, MA 02341  
781 294 0100 f: 781 293 2849 [litecontrol.com](http://litecontrol.com)



# Photometric data 2x4



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	1537	1537	1537	1537	1537
5	1540	1532	1531	1529	1527
10	1521	1514	1515	1517	1511
15	1487	1481	1486	1491	1486
20	1441	1436	1445	1452	1449
25	1381	1379	1390	1404	1407
30	1306	1308	1329	1354	1362
35	1213	1220	1252	1294	1303
40	1106	1117	1163	1212	1228
45	988	1004	1062	1117	1133
50	856	876	943	998	1015
55	722	745	811	864	876
60	586	610	671	712	719
65	454	477	527	554	557
70	335	354	392	408	408
75	222	239	263	268	268
80	129	138	152	154	152
85	52	57	59	55	51
90	5	5	4	5	2

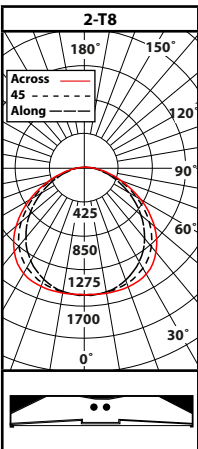
G-D-LHE242T5-HE 84% Efficiency Input Watts = 63																		
RCC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	100	100	100	100	98	98	98	98	93	93	93	89	89	89	86	86	86	84
1	91	87	84	81	89	86	82	79	82	79	77	79	77	75	76	74	72	71
2	83	76	71	66	81	75	70	65	72	67	64	69	65	62	67	64	61	59
3	76	67	60	55	74	66	60	54	63	58	53	61	56	53	59	55	52	50
4	69	59	52	47	68	58	52	46	56	50	46	54	49	45	52	48	44	43
5	64	53	46	40	62	52	45	40	50	44	39	49	43	39	47	42	39	37
6	59	48	40	35	57	47	40	35	46	39	34	44	38	34	43	38	34	32
7	55	43	36	31	53	43	36	31	41	35	31	40	34	30	39	34	30	28
8	51	40	32	27	50	39	32	27	38	32	27	37	31	27	36	31	27	25
9	48	36	29	25	46	36	29	25	35	29	25	34	28	24	33	28	24	23
10	45	33	27	22	43	33	27	22	32	26	22	31	26	22	31	26	22	21

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	4377	84	100
90-180°	0	0	0
0-180°	4377	84	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	2144	2304	2458
55°	1931	2169	2343
65°	1648	1913	2022
75°	1316	1559	1589
85°	915	1039	898

Litecontrol Test Report # 74726000



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	1600	1600	1600	1600	1600
5	1600	1596	1598	1603	1597
10	1581	1579	1583	1602	1600
15	1548	1551	1572	1597	1599
20	1499	1510	1544	1583	1594
25	1436	1453	1507	1558	1576
30	1359	1387	1455	1518	1538
35	1269	1300	1383	1453	1478
40	1156	1201	1290	1361	1382
45	1035	1084	1175	1246	1267
50	903	951	1040	1105	1123
55	765	812	892	948	966
60	624	665	734	784	796
65	487	523	578	615	624
70	360	391	434	459	462
75	240	265	296	311	309
80	138	155	177	183	179
85	55	67	70	68	64
90	4	3	3	3	2

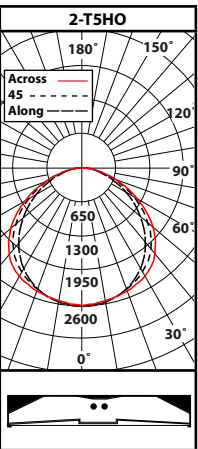
G-D-LHE242T8-HE 82% Efficiency Input Watts = 56																		
RCC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	98	98	98	98	96	96	96	96	92	92	92	88	88	88	84	84	84	82
1	90	86	82	79	88	84	81	78	80	78	75	77	75	73	74	73	71	69
2	82	75	69	65	79	73	68	64	70	66	62	68	64	61	65	62	60	58
3	74	66	59	54	72	64	58	53	62	57	52	60	55	51	58	54	50	49
4	68	58	51	45	66	57	50	45	55	49	45	53	48	44	51	47	43	42
5	63	52	45	39	61	51	44	39	49	43	38	48	42	38	46	41	38	36
6	58	47	39	34	56	46	39	34	44	38	34	43	38	33	42	37	33	31
7	54	42	35	30	52	42	35	30	40	34	30	39	34	29	38	33	29	28
8	50	39	32	27	48	38	31	27	37	31	26	36	30	26	35	30	26	25
9	46	35	29	24	45	35	28	24	34	28	24	33	28	24	32	27	24	22
10	44	33	26	22	42	32	26	22	31	26	22	31	25	21	30	25	21	20

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	4781	82	100
90-180°	0	0	0
0-180°	4781	82	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	2246	2550	2749
55°	2046	2386	2584
65°	1768	2098	2265
75°	1423	1755	1832
85°	968	1232	1127

Litecontrol Test Report # 75012000



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	2582	2582	2582	2582	2582
5	2583	2574	2568	2566	2560
10	2551	2540	2535	2539	2529
15	2498	2490	2491	2505	2494
20	2415	2409	2420	2452	2459
25	2311	2312	2348	2398	2400
30	2182	2193	2255	2330	2345
35	2025	2046	2144	2234	2256
40	1841	1880	2001	2089	2118
45	1646	1693	1825	1918	1945
50	1430	1481	1603	1707	1737
55	1207	1263	1392	1472	1489
60	982	1034	1145	1210	1220
65	763	806	906	948	961
70	566	604	672	702	704
75	370	408	455	468	466
80	212	234	265	272	266
85	84	94	106	103	88
90	4	4	4	4	6

G-D-LHE242T5HO-HE 83% Efficiency Input Watts = 120																		
RCC	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
RCR																		
0	98	98	98	98	96	96	96	96	92	92	92	88	88	88	84	84	84	83
1	90	86	83	80	88	84	81	78	81	78	76	78	75	74	75	73	71	70
2	82	75	70	65	80	74	69	64	71	66	63	68	64	61	66	63	60	58
3	75	66	59	54	73	65	59	54	62	57	53	60	56	52	58	54	51	49
4	68	59	51	46	67	57	51	45	55	49	45	53	48	44	52	47	44	42
5	63	52	45	39	61	51	44	39	50	43	39	48	43	38	46	42	38	36
6	58	47	40	34	56	46	39	34	45	39	34	43	38	34	42	37	33	32
7	54	43	35	30	52	42	35	30	41	34	30	39	34	30	38	33	30	28
8	50	39	32	27	49	38	32	27	37	31	27	36	31	27	35	30	26	25
9	47	36	29	24	46	35	29	24	34	28	24	33	28	24	32	27	24	22
10	44	33	26	22	43	32	26	22	32	26	22	31	25	22	30	25	22	20

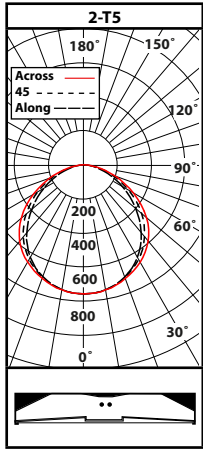
Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	7441	83	100
90-180°	0	0	0
0-180°	7441	83	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	3572	3960	4220
55°	3229	3724	3983
65°	2770	3289	3489
75°	2193	2697	2763
85°	1479	1866	1549

Litecontrol Test Report # 75116001

# Photometric data 2x2



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	757	757	757	757	757
5	754	754	754	754	755
10	744	744	745	745	744
15	727	727	728	729	731
20	701	702	705	709	711
25	669	670	676	684	687
30	628	632	643	655	660
35	579	586	602	620	627
40	523	532	554	578	587
45	462	472	500	528	538
50	396	409	441	470	479
55	331	345	375	403	412
60	267	280	309	332	340
65	206	219	243	261	266
70	150	162	181	193	197
75	98	108	123	130	131
80	56	62	71	75	75
85	21	24	26	27	25
90	2	3	3	3	3

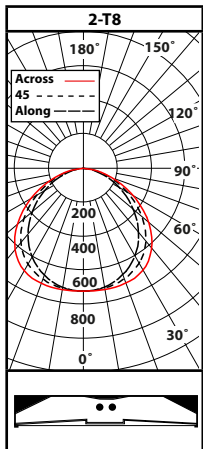
G-D-LHE222T5-HE 74% Efficiency																		
Input Watts = 32																		
RCC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	88	88	88	88	86	86	86	86	83	83	83	79	79	79	76	76	76	74
1	81	78	75	72	79	76	73	71	73	70	68	70	68	66	67	66	64	63
2	74	68	63	59	72	66	62	58	64	60	57	61	58	55	59	57	54	53
3	67	60	54	49	66	59	53	49	56	52	48	54	50	47	52	49	46	44
4	62	53	47	42	60	52	46	41	50	45	41	48	44	40	47	43	40	38
5	57	47	41	36	55	47	40	36	45	40	35	44	39	35	42	38	35	33
6	53	43	36	31	51	42	36	31	41	35	31	39	34	31	38	34	30	29
7	49	39	32	28	47	38	32	28	37	31	27	36	31	27	35	30	27	26
8	45	35	29	25	44	35	29	25	34	28	25	33	28	24	32	28	24	23
9	42	32	26	22	41	32	26	22	31	26	22	30	25	22	30	25	22	20
10	40	30	24	20	39	30	24	20	29	24	20	28	23	20	27	23	20	19

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	2081	74	100
90-180°	0	0	0
0-180°	2081	74	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	1906	2063	2220
55°	1683	1907	2095
65°	1422	1677	1836
75°	1105	1386	1477
85°	703	870	837

Litecontrol Test Report # 75526000



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	713	713	713	713	713
5	710	710	711	713	714
10	701	702	706	712	715
15	684	688	698	709	714
20	660	668	684	703	710
25	631	642	667	692	704
30	595	609	643	673	687
35	552	569	609	643	659
40	501	521	565	601	617
45	445	467	511	548	563
50	384	406	450	484	499
55	324	344	383	415	428
60	263	280	314	342	353
65	204	219	247	269	277
70	149	161	184	201	205
75	99	108	124	136	138
80	57	63	73	79	79
85	22	24	28	29	29
90	3	4	3	3	3

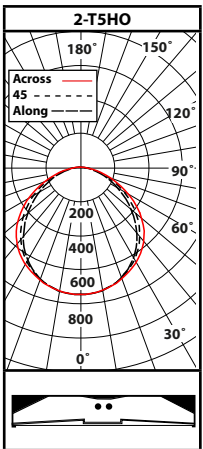
G-D-LHE222T8-HE 75% Efficiency																		
Input Watts = 29.7																		
RCC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	89	89	89	89	87	87	87	87	83	83	83	79	79	79	76	76	76	75
1	81	78	75	72	79	76	73	71	73	71	68	70	68	66	67	66	64	63
2	74	68	63	59	72	66	62	58	64	60	57	61	58	55	59	56	54	52
3	67	60	54	49	66	58	53	48	56	51	48	54	50	47	52	49	46	44
4	62	53	46	41	60	52	46	41	50	45	41	48	44	40	47	43	39	38
5	57	47	41	36	55	46	40	35	45	39	35	43	38	35	42	38	34	33
6	52	42	36	31	51	42	35	31	40	35	31	39	34	30	38	34	30	29
7	49	38	32	27	47	38	32	27	37	31	27	36	31	27	35	30	27	25
8	45	35	29	24	44	35	29	24	34	28	24	33	28	24	32	27	24	22
9	42	32	26	22	41	32	26	22	31	26	22	30	25	22	29	25	22	20
10	40	30	24	20	39	29	24	20	29	23	20	28	23	20	27	23	20	18

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	2087	75	100
90-180°	0	0	0
0-180°	2087	75	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	1836	2108	2323
55°	1648	1948	2177
65°	1408	1705	1912
75°	1116	1398	1555
85°	736	937	971

Litecontrol Test Report # 75421000



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	733	733	733	733	733
5	732	730	730	730	730
10	724	721	721	721	721
15	705	706	706	706	707
20	681	682	684	686	688
25	649	651	654	662	665
30	610	613	622	634	639
35	563	567	580	598	607
40	508	514	534	557	568
45	449	456	481	508	521
50	385	395	422	452	463
55	321	332	360	389	399
60	259	269	296	321	329
65	199	211	232	252	257
70	146	155	173	187	190
75	95	102	116	125	126
80	53	59	68	72	72
85	19	22	26	25	24
90	1	2	0	1	1

G-D-LHE222T5HO-HE 72% Efficiency																		
Input Watts = 50																		
RCC	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
RCR																		
0	85	85	85	85	83	83	83	83	80	80	80	76	76	76	73	73	73	72
1	78	75	72	69	76	73	71	68	70	68	66	67	66	64	65	63	62	61
2	71	66	61	57	69	64	60	56	62	58	55	59	56	54	57	55	52	51
3	65	58	52	47	63	57	51	47	54	50	46	52	49	45	51	47	45	43
4	60	51	45	40	58	50	44	40	48	43	39	47	42	39	45	41	38	37
5	55	46	39	35	53	45	39	35	43	38	34	42	37	34	41	37	33	32
6	51	41	35	30	49	41	35	30	39	34	30	38	33	30	37	33	29	28
7	47	37	31	27	46	37	31	27	36	30	27	35	30	26	34	29	26	25
8	44	34	28	24	43	34	28	24	33	27	24	32	27	24	31	27	23	22
9	41	31	26	22	40	31	25	21	30	25	21	29	25	21	29	24	21	20
10	38	29	23	20	37	29	23	19	28	23	19	27	23	19	27	22	19	18

Floor Cavity Reflectance .20

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	2009	72	100
90-180°	0	0	0
0-180°	2009	72	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	1852	1984	2149
55°	1633	1831	2029
65°	1374	1601	1774
75°	1071	1307	1420
85°	636	870	803

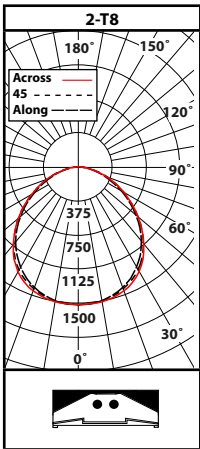
Litecontrol Test Report # 75426000

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# Photometric data 1x4



CANDLEPOWER SUMMARY					
ANGLE	0	22.5	45	67.5	90
0	1477	1477	1477	1477	1477
5	1477	1471	1468	1476	1475
10	1457	1455	1458	1468	1469
15	1424	1422	1433	1451	1449
20	1378	1381	1395	1417	1418
25	1320	1325	1344	1367	1368
30	1244	1254	1276	1298	1299
35	1155	1165	1190	1210	1207
40	1051	1057	1084	1097	1088
45	934	942	963	971	965
50	801	812	833	841	833
55	674	682	702	708	705
60	544	550	573	580	578
65	420	430	451	458	454
70	307	319	338	342	335
75	203	215	232	223	214
80	116	129	130	124	121
85	45	50	50	53	55
90	3	3	2	2	3

G-D-LHE142T8-HE 69% Efficiency Input Watts = 56																					
RCC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	82	82	82	82	80	80	80	80	77	77	77	73	73	73	70	70	70	69			
1	75	72	69	67	73	71	68	66	68	66	64	65	63	62	62	61	60	58			
2	69	63	59	55	67	62	58	54	59	56	53	57	54	52	55	53	51	49			
3	63	56	50	46	61	55	50	45	53	48	45	51	47	44	49	46	43	42			
4	58	49	44	39	56	49	43	39	47	42	38	45	41	38	44	40	37	36			
5	53	44	38	34	52	44	38	34	42	37	33	41	36	33	39	36	32	31			
6	49	40	34	30	48	39	34	29	38	33	29	37	32	29	36	32	29	27			
7	45	36	30	26	44	36	30	26	35	30	26	34	29	26	33	29	25	24			
8	42	33	27	23	41	33	27	23	32	27	23	31	26	23	30	26	23	22			
9	40	30	25	21	39	30	25	21	29	24	21	28	24	21	28	24	21	19			
10	37	28	23	19	36	28	23	19	27	22	19	26	22	19	26	22	19	18			
Floor Cavity Reflectance .20																					

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	% LAMP	% LUMINAIRE
0-90°	3998	69	100
90-180°	0	0	0
0-180°	3998	69	100

LUMINANCE SUMMARY (cd/m²)			
ANGLE	0°	45°	90°
45°	4945	5099	5109
55°	4399	4582	4602
65°	3721	3995	4022
75°	2936	3356	3095
85°	1933	2148	2362

Litecontrol Test Report # 75821000

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