

PHILIPS

Day-Brite

CFI

Recessed

HP90 1x4

T8, T5, or T5HO



Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

The Philips Day-Brite / Philips CFI HP90 recessed combines a recessed contoured body with an enclosed linear prismatic translucent lens to create an efficient direct/indirect luminaire suitable for a variety of applications.

Ordering guide

Example: **H9S1GLR128UNV-1/1-EB**

Family	Air Function	Width	Ceiling Type	Diffuser	Reflector	No. of Lamps	Lamp Type (by others)	Voltage	Options
H9	S	1		L	R			—	
H9 HP90 Direct/ Indirect Recessed	S Static	1 1'	G Fits both standard and slot grid N 9/16" narrow grid	L Acrylic high light transmission linear prismaic lens	R Specular aluminum	1 1 lamp 2 2 lamp	28 28WT5 32 32WT8 54 54WT5HO	UNV Universal voltage, 120-277V 120 120V 277 277V 347 347V	1/1 One 1-lamp ballast 1/2 One 2-lamp ballast EB Electronic ballast, <10% THD std. ballast factor EB10R T8 electronic ballast, <10% THD, program rapid start EBHE T8 electronic ballast, high efficiency std. ballast factor EBLHE T8 electronic ballast, high efficiency low ballast factor EBHHE T8 electronic ballast, high efficiency high ballast factor EBSD T8 electronic step dimming ballast, .88 ballast factor EBD7 Advance Mark 7 dimming ballast, 0-10V (low voltage) control EBDX Advance Mark 10 dimming ballast, phase control EBD Electronic dimming ballast, customer specified E1 B100 emerg. ballast, T8, 350-450 lumens, 120/277V E1CAN B100-CAN emerg. ballast, Canada market, T8, 350-450 lumens, 120/347V E7 B60 emerg. ballast, T8, 600-700 lumens, 120/277V E5 B50 emerg. ballast, U.S. or Canada market, T8, 1100-1400 lumens, UNV E5CAN B50-CAN emerg. ballast, Canada market, T8, 1100-1400 lumens, 120/347V E5ST B50ST emerg. ballast w/self test, U.S. or Canada market, T8, 1100-1400 lumens, UNV E7LP LP550 emerg. ballast T5/T5HO, 430-700 lumens, 120/277V E6LP LP600 emerg. ballast U.S. or Canada market, T5/T5HO, 750-1325 lumens, 120/277V F1 3/8" flex, 3 wire 18 gauge 6' F2 3/8" flex, 4 wire 18 gauge 6' F2/5W 3/8" flex, 5 wire 18 gauge 6' GLR Fusing, fast blow LPT830 Installed T8/T5/T5HO lamps, 80+ CRI, 3000K LPT835 Installed T8/T5/T5HO lamps, 80+ CRI, 3500K LPT841 Installed T8/T5/T5HO lamps, 80+ CRI, 4100K LPT830HL Installed T8/T5 hi lumen lamps, 80+ CRI, 3000K LPT835HL Installed T8/T5 hi lumen lamps, 80+ CRI, 3500K LPT841HL Installed T8/T5 hi lumen lamps, 80+ CRI, 4100K CHIC Chicago plenum rated

Accessories (order separately)

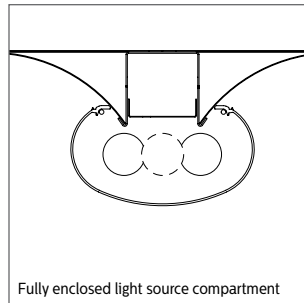
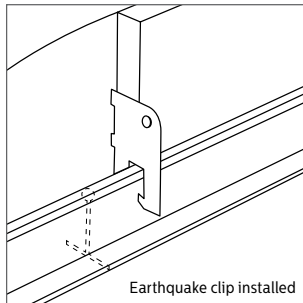
- **FMA14** – 1'x4" "F" mounting frame for NEMA "F" mounting

H9S HP90 recessed 1x4

T8, T5, or T5HO

Features

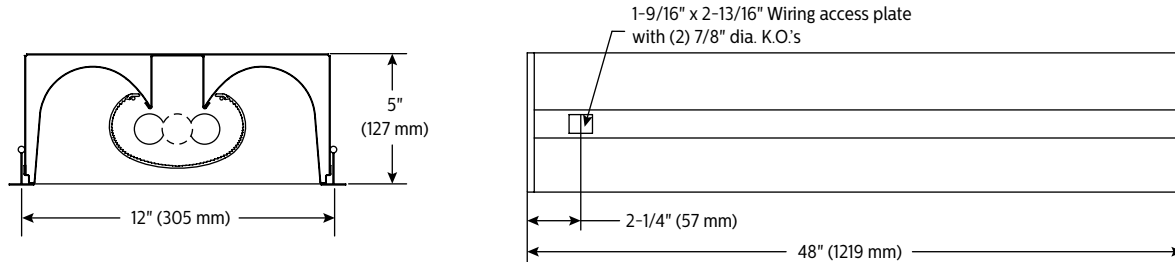
- Direct/indirect appearance with soft contoured interior.
- Translucent DR acrylic high light transmission linear prismatic lens.
- 95% reflective specular aluminum reflector.
- Lens encloses lamp compartment.
- Lamp shield opens from either side.
- Ballast accessible from room side.
- 78.4% efficient (2 lamp, 32WT8), 88.9% efficient (2 lamp, 28WT5), 86.5% efficient (1 lamp, 54WT5HO).
- Tension screws secure ends to body.
- Same fixture fits both standard grid and slot grid ceiling types.
- Fixture fits flush to the face of slot grid ceiling types.
- Order "N" ceiling option for 9/16" narrow grid applications.
- Built-in earthquake clips.
- Can be continuous row mounted.
- Wiring access plate standard.



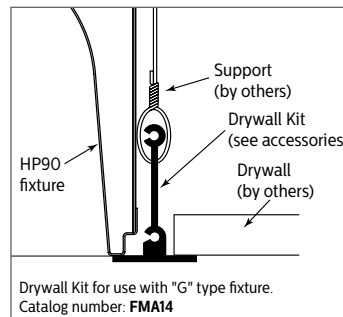
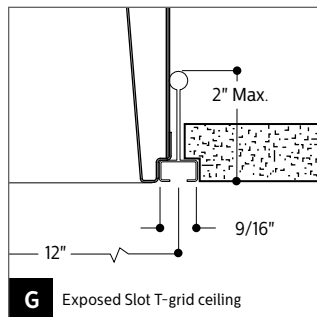
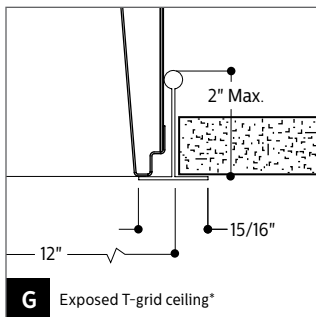
Specifications

- **Performance:** In an installation of 2 lamp 32WT8 luminaires in a room cavity ratio of 1, with reflectance 80% ceiling, 50% wall, 20% floor, the C.U. shall not be less than .81. To reduce glare the average brightness at 65° shall not exceed 4709 candelas per square meter. To control veiling reflections, luminaire output in the 30°-90° zone shall not be less than 73.9%.
In an installation of 2 lamp 28WT5 luminaires in a room cavity ratio of 1, with reflectance 80% ceiling, 50% wall, 20% floor, the C.U. shall not be less than .93. To reduce glare the average brightness at 65° shall not exceed 3851 candelas per square meter. To control veiling reflections, luminaire output in the 30°-90° zone shall not be less than 72.1%.
In an installation of 2 lamp 54WT5HO luminaires in a room cavity ratio of 1, with reflectance 80% ceiling, 50% wall, 20% floor, the C.U. shall not be less than .82. To reduce glare the average brightness at 65° shall not exceed 5556 candelas per square meter. To control veiling reflections, luminaire output in the 30°-90° zone shall not be less than 70.8%.
- **Materials:** Chassis Parts—Die-formed code gauge cold rolled steel.
- **Finish:** Chassis exterior—white baked polyester enamel. Cavity—white baked polyester enamel. Rust preventative undercoating.
- **Lens:** L—Linear prismatic translucent DR acrylic lens.
- **Reflector:** R—Low iridescence specular aluminum with 95% reflectance.
- **Electrical:** Thermally protected class "P" ballast, non PCB. If K.O. is within 3" of ballast, use wire suitable for at least 90°.
- **Labels:** cULus listed, suitable for damp locations.

Dimensions



Mounting methods



* For flush mounting when using 9/16" exposed t-grid ceiling order "N" ceiling type.

H9S HP90 recessed 1x4

T8, T5, or T5HO

Photometry

Model No. H9S1GLR128UNV-1/1-EB

LER = 72.1 IW = 32.6 BF = 1.04
Comparative yearly lighting energy cost per 1000 lumens = \$3.33

Report Number: G2010229

Catalog Number: H9S1GLR128UNV-1/1-EB

Lamps: (1) F28T5

Luminaire: HP90 1' x 4' with linear prismatic lens.

Ballast: ICN-2S28

Report is based on 2600 lumens per lamp.

Efficiency: 86.9%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.4

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	717	717	717	
5	709	716	721	68
15	683	702	721	199
25	630	671	707	309
35	554	617	667	385
45	459	541	599	413
55	350	450	490	387
65	236	323	322	297
75	124	164	140	160
85	30	36	36	41
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	576	22.2	25.5
0-40	961	37.0	42.5
0-60	1761	67.7	77.9
0-90	2260	86.9	100.0

Coefficients of Utilization

Ceiling		80%			50%			30%		
Wall		70	50	30	50	30	10	50	30	10
RC		Zonal Cavity Method								
RW		Effective Floor Reflectance = 20%								
Room Cavity Ratio	1	94	90	86	84	82	79	81	79	77
	2	86	78	72	73	69	65	71	67	63
	3	78	68	61	64	59	54	62	57	53
	4	71	60	53	57	51	46	55	49	45
	5	65	54	46	51	44	39	49	43	39
	6	60	48	40	46	39	34	44	38	34
	7	56	44	36	42	35	30	40	34	30
	8	52	40	32	38	31	27	37	31	27
	9	48	36	29	35	28	24	34	28	24
	10	45	33	27	32	26	22	31	26	22

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	1963.	2314.	2562.
55	1845.	2373.	2583.
65	1689.	2311.	2304.
75	1449.	1916.	1636.
85	1041.	1249.	1249.

Photometry

Model No. H9S1GLR228UNV-1/2-EB

LER = 77.2 IW = 63.3 BF = 1.0
Comparative yearly lighting energy cost per 1000 lumens = \$3.11

Report Number: G2006140

Catalog Number: H9S1GLR228UNV-1/2-EB

Lamps: (2) F28T5

Luminaire: HP90 1' x 4' with linear prismatic lens.

Ballast: QTP2X28T5/UNV

Report is based on 2750 lumens per lamp.

Efficiency: 88.9%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.4

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	1661	1661	1661	
5	1643	1659	1678	158
15	1581	1654	1725	468
25	1466	1621	1692	737
35	1303	1470	1512	902
45	1088	1217	1236	922
55	823	913	889	793
65	537	590	558	569
75	256	283	250	291
85	38	42	38	50
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	1364	24.8	27.9
0-40	2266	41.2	46.3
0-60	3981	72.4	81.4
0-90	4891	88.9	100.0

Coefficients of Utilization

Ceiling		80%			50%			30%		
Wall		70	50	30	50	30	10	50	30	10
RC		Zonal Cavity Method								
RW		Effective Floor Reflectance = 20%								
Room Cavity Ratio	1	97	93	89	87	85	82	84	82	80
	2	89	81	75	77	72	68	74	70	67
	3	81	72	64	68	62	57	65	60	56
	4	74	63	56	60	54	49	58	53	48
	5	68	57	49	54	47	42	52	46	42
	6	63	51	43	49	42	37	47	41	37
	7	58	46	38	44	37	33	43	37	32
	8	54	42	35	40	34	29	39	33	29
	9	51	39	31	37	31	26	36	30	26
	10	47	36	29	34	28	24	33	28	24

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	4245.	4748.	4822.
55	3958.	4391.	4276.
65	3505.	3851.	3542.
75	2729.	3046.	2665.
85	1203.	1329.	1203.



Some luminaires use fluorescent or high intensity discharge (HID) lamps that contain small amounts of mercury. Such lamps are labeled, "Contain Mercury" and/or the symbol "Hg". Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycling and disposal can be found at www.lamprecycle.org

H9S HP90 recessed 1x4

T8, T5, or T5HO

Model No. H9S1GLR132UNV-1/1-EB

LER = 72.2 IW = 29.4 BF = 0.88
Comparative yearly lighting energy cost per 1000 lumens = \$3.32

Report Number: G2010170

Catalog Number: H9S1GLR132UNV-1/1-EB

Lamps: (1) F32T8

Luminaire: HP90 1' x 4' with linear prismatic lens.

Ballast: IOP-1S32-SC

Report is based on 3100 lumens per lamp.

Efficiency: 77.8%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.5

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	740	740	740	
5	731	739	745	70
15	704	728	749	206
25	651	701	746	323
35	573	654	721	409
45	475	589	679	450
55	361	504	563	430
65	240	355	339	320
75	123	167	141	165
85	27	35	35	39
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	600	19.3	24.9
0-40	1008	32.5	41.8
0-60	1889	60.9	78.3
0-90	2413	77.8	100.0

Coefficients of Utilization

Ceiling		80%			50%			30%		
Wall		70	50	30	50	30	10	50	30	10
RC		Zonal Cavity Method								
RW		Effective Floor Reflectance = 20%								
Room Cavity Ratio	1	85	81	77	76	73	71	73	71	69
	2	77	70	65	66	62	58	63	60	57
	3	70	61	55	58	52	48	55	51	47
	4	64	54	47	51	45	41	49	44	40
	5	58	48	41	45	39	35	44	39	35
	6	54	43	36	41	35	30	39	34	30
	7	50	39	32	37	31	27	36	30	26
	8	46	35	29	34	28	24	33	27	24
	9	43	32	26	31	26	21	30	25	21
	10	40	30	23	29	23	19	28	23	19

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	2004.	2485.	2896.
55	1878.	2622.	2929.
65	1694.	2506.	2393.
75	1418.	1925.	1625.
85	924.	1198.	1198.

Model No. H9S1GLR232UNV-1/2-EB

LER = 72.0 IW = 59.4 BF = 0.88
Comparative yearly lighting energy cost per 1000 lumens = \$3.33

Report Number: G2010210

Catalog Number: H9S1GLR232UNV-1/2-EB

Lamps: (2) F32T8

Luminaire: HP90 1' x 4' with linear prismatic lens.

Ballast: ICN-2P32-SC

Report is based on 3100 lumens per lamp.

Efficiency: 78.4%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.4

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	1603	1603	1603	
5	1587	1596	1608	152
15	1526	1552	1580	439
25	1408	1463	1519	676
35	1239	1332	1417	834
45	1028	1156	1265	889
55	787	948	1022	824
65	532	659	667	624
75	278	337	309	340
85	64	71	70	82
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	1267	20.4	26.1
0-40	2101	33.9	43.2
0-60	3814	61.5	78.5
0-90	4861	78.4	100.0

Coefficients of Utilization

Ceiling		80%			50%			30%		
Wall		70	50	30	50	30	10	50	30	10
RC		Zonal Cavity Method								
RW		Effective Floor Reflectance = 20%								
Room Cavity Ratio	1	85	81	78	76	74	71	73	71	69
	2	77	71	65	66	62	59	64	60	57
	3	70	62	55	58	53	49	56	52	48
	4	64	55	48	52	46	41	50	45	41
	5	59	49	42	46	40	36	45	39	35
	6	54	44	37	42	36	31	40	35	31
	7	50	40	33	38	32	27	37	31	27
	8	47	36	29	34	29	24	34	28	24
	9	44	33	27	32	26	22	31	26	22
	10	41	30	24	29	24	20	29	23	20

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	4338.	4878.	5338.
55	4094.	4931.	5316.
65	3756.	4652.	4709.
75	3205.	3885.	3562.
85	2191.	2431.	2396.

H9S HP90 recessed 1x4

T8, T5, or T5HO

Model No. H9S1GLR154UNV-1/1-EB

LER = 61.4 IW = 64.7 BF = 1.02
Comparative yearly lighting energy cost per 1000 lumens = \$3.91

Report Number: G2010213

Catalog Number: H9S1GLR154UNV-1/1-EB

Lamps: (1) 54W T5HO

Luminaire: HP90 1' x 4' with linear
prismatic lens..

Ballast: ICN-2S54

Report is based on 4500 lumens per lamp.

Efficiency: 86.5%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.4

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	1234	1234	1234	
5	1222	1231	1241	117
15	1176	1209	1242	342
25	1086	1157	1221	534
35	956	1066	1158	666
45	791	937	1041	715
55	603	778	847	670
65	405	558	550	512
75	209	276	234	217
85	46	56	55	64
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	994	22.1	25.5
0-40	1659	36.9	42.6
0-60	3045	67.7	78.2
0-90	3892	86.5	100.0

Coefficients of Utilization

Ceiling	80%			50%			30%		
	70	50	30	50	30	10	50	30	10
RC	Zonal Cavity Method								
RW	Effective Floor Reflectance = 20%								
1	94	90	86	84	81	79	81	78	76
2	85	78	72	73	69	65	70	66	63
3	77	68	61	64	58	54	62	57	53
4	71	60	52	57	50	45	55	49	45
5	65	54	46	51	44	39	49	43	39
6	60	48	40	46	39	34	44	38	34
7	55	43	36	41	35	30	40	34	30
8	51	40	32	38	31	27	37	31	26
9	48	36	29	35	28	24	34	28	24
10	45	33	26	32	26	22	31	26	22

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	338.	3954.	4392.
55	3137.	4047.	4406.
65	2859.	3939.	3883.
75	2409.	3182.	2697.
85	1575.	1917.	1883.

Photometry

Model No. H9S1GLR254UNV-1/2-EB

LER = 64.3 IW = 109.0 BF = 1.0
Comparative yearly lighting energy cost per 1000 lumens = \$3.73

Report Number: G2006165

Catalog Number: H9S1GLR254UNV-1/2-EB

Lamps: (2) 54W T5HO

Luminaire: HP90 1' x 4' with linear
prismatic lens.

Ballast: B254IUNV-E

Report is based on 4500 lumens per lamp.

Efficiency: 77.9%

CIE Type: Direct

Plane: 0-Deg. 90-Deg.

Spacing Criteria: 1.2 1.3

Shielding Angles: 90 90

Plane: 0-Deg. 90-Deg.

Luminous Length: 47.040 11.040

Candela Distribution

Vertical Angle	Horizontal Angle			Zonal Lumens
	0	45	90	
0	2472	2472	2472	
5	2443	2467	2491	236
15	2358	2452	2533	693
25	2189	2362	2406	1073
35	1936	2082	2071	1282
45	1601	1662	1641	1272
55	1180	1203	1188	1071
65	716	746	766	748
75	324	375	377	394
85	63	78	74	90
90	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt.
0-30	2002	22.7	29.2
0-40	3283	37.3	47.9
0-60	5626	63.9	82.0
0-90	6858	77.9	100.0

Coefficients of Utilization

Ceiling	80%			50%			30%		
	70	50	30	50	30	10	50	30	10
RC	Zonal Cavity Method								
RW	Effective Floor Reflectance = 20%								
1	85	82	78	77	74	72	74	72	70
2	78	72	66	67	63	60	65	62	59
3	71	63	57	60	55	51	57	53	50
4	65	56	49	53	48	43	51	47	43
5	60	50	43	48	42	38	46	41	37
6	55	45	38	43	37	33	42	37	33
7	51	41	34	39	34	29	38	33	29
8	48	38	31	36	30	26	35	30	26
9	45	34	28	33	28	24	32	27	24
10	42	32	26	31	25	21	30	25	21

Average Luminance data in candela / sq. meter

Angle	0°	45°	90°
45	6941.	7205.	7114.
55	6307.	6430.	6349.
65	5194.	5411.	5556.
75	3838.	4442.	4465.
85	2216.	2743.	2603.

