

PHILIPS

Industry and
Retail lighting

TrueForce

Low expectations or high performance?

Real professionals count on Philips LED lighting

REAL
PROs
REAL
QUALITY

This is the **TrueForce LED Industrial and Retail**

- ✓ **A real retrofit alternative:** replacement for 250 and 400 W SON/HPI/HPL in conventional high-bay applications
- ✓ **Two different beam angle options:** wide angle (120°) and narrow angle (60°) for high installation heights
- ✓ **No rewiring necessary with InstantFit version:** works in existing luminaires with conventional ballasts – even with ignitors.
- ✓ **Excellent color rendering** with Ra 80 and a color temperature of 4,000 kelvin
- ✓ Available in **11,000 and 20,000 lumen type**
- ✓ **50,000-hour service life** and **5-year warranty**
- ✓ Dimensions: 250 × 210 mm, weight: 1.3 kg, additional steel cable to securely attach the lamp to the fixture
- ✓ IP40 protection rating (dry, clean environment)
- ✓ Perfectly suited for **industrial use, in warehouses, and retail areas.**



You'll be amazed by the **TrueForce LED Industrial and Retail**

- ✓ **Place your trust in certified quality:** cut your **energy consumption by 65%** compared to conventional lamps.
- ✓ **No need for any changes to the fixture** since the ignitor (if applicable) as well as the conventional ballast can both still be used. As a result, the conformity of the luminaire remains valid. Valid for InstantFit version.
- ✓ **It pays to use Philips TrueForce LED Industrial and Retail!** In most cases, the energy savings in the first year alone are higher than the purchase price of the lamp!
- ✓ Stands out thanks to its **passive heat management** and a **4 kV surge protector**.
- ✓ Extremely long-lasting: up to a **3× longer service life** than conventional discharge lamps.
- ✓ **Immediate 100% brightness:** no start-up delay and perfect light without any flickering.
- ✓ Does not contain any toxic substances and is **100% mercury-free**.
- ✓ Meets the highest standards of quality: **with up to a 5-year warranty***.

Available as 250W and 400W replacement.
InstantFit or Direct Mains operation!

* For warranty conditions, visit
www.lighting.philips.com/main/support/support/warranty



Big consumption or big savings?

LED lamps are up to **65% more efficient** than conventional lamps, meaning that you can save energy costs without any reduction in lighting quality. The tables show the electricity cost savings per watt based on lighting time (in hours) and electricity price.

LED compared with a conventional solution	Metal halide lamp (HPI) BU 250W E40	TrueForce Industrial and Retail InstantFit 88W E40
Lamp wattage	250 W	88 W
Ballast power loss	24 W	17 W
System output	274 W	105 W
Savings per year		169 W

LED compared with a conventional solution	Metal halide lamp (HPI) BU 400W E40	TrueForce Industrial and Retail InstantFit 145W E40
Lamp wattage	400 W	145 W
Ballast power loss	28 W	18 W
System output	428 W	163 W
Savings per year		265 W

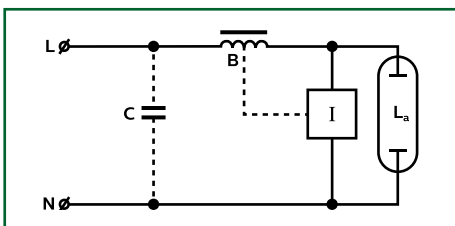
Energy savings from replacing a 250 W lamp with a TrueForce Industrial and Retail 88W, per year							
Lighting time per year	Electricity price/kWh per year						
	0.15 c	0.16 c	0.17 c	0.18 c	0.19 c	0.20 c	0.21 c
1,000	€ 25.35	€ 27.04	€ 28.73	€ 30.42	€ 32.11	€ 33.80	€ 35.49
2,000	€ 50.70	€ 54.08	€ 57.46	€ 60.84	€ 64.22	€ 67.60	€ 70.98
3,000	€ 76.05	€ 81.12	€ 86.19	€ 91.26	€ 96.33	€ 101.40	€ 106.47
4,000	€ 101.40	€ 108.16	€ 114.92	€ 121.68	€ 128.44	€ 135.20	€ 141.96
5,000	€ 126.75	€ 135.20	€ 143.65	€ 152.10	€ 160.55	€ 169.00	€ 177.45
6,000	€ 152.10	€ 162.24	€ 172.38	€ 182.52	€ 192.66	€ 202.80	€ 212.94
7,000	€ 177.45	€ 189.28	€ 201.11	€ 212.94	€ 224.77	€ 236.60	€ 248.43
8,000	€ 202.80	€ 216.32	€ 229.84	€ 243.36	€ 256.88	€ 270.40	€ 283.92

Energy savings from replacing a 400 W lamp with a TrueForce Industrial and Retail 145W, per year							
Lighting time per year	Electricity price/kWh per year						
	0.15 c	0.16 c	0.17 c	0.18 c	0.19 c	0.20 c	0.21 c
1,000	€ 39.75	€ 42.40	€ 45.05	€ 47.70	€ 50.35	€ 53.00	€ 55.65
2,000	€ 79.50	€ 84.80	€ 90.10	€ 95.40	€ 100.70	€ 106.00	€ 111.30
3,000	€ 119.25	€ 127.20	€ 135.15	€ 143.10	€ 151.05	€ 159.00	€ 166.95
4,000	€ 159.00	€ 169.60	€ 180.20	€ 190.80	€ 201.40	€ 212.00	€ 222.60
5,000	€ 198.75	€ 212.00	€ 225.25	€ 238.50	€ 251.75	€ 265.00	€ 278.25
6,000	€ 238.50	€ 254.40	€ 270.30	€ 286.20	€ 302.10	€ 318.00	€ 333.90
7,000	€ 278.25	€ 296.80	€ 315.35	€ 333.90	€ 352.45	€ 371.00	€ 389.55
8,000	€ 318.00	€ 339.20	€ 360.40	€ 381.60	€ 402.80	€ 424.00	€ 445.20

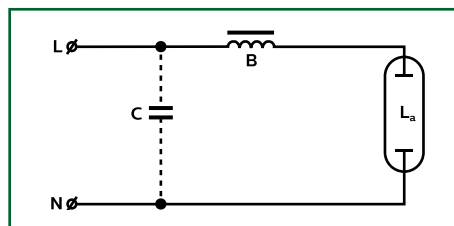
Simple installation in existing high-bay fixtures with SON/HPI/HPL ballasts – thanks to plug-and-play

The **TrueForce LED Industrial and Retail E40** is a real retrofit alternative which works with existing fixtures in connection with existing conventional/low-loss ballasts including those with ignitors¹. For good thermal management, the fixture's glass cover should be removed (if applicable). In addition, steel cable is attached to securely attach the lamp to the fixture.

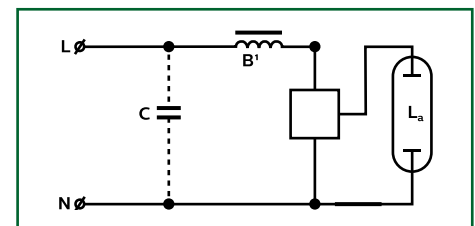
Circuit diagram for SON / high-pressure sodium lamp




Circuit diagram for HPL / mercury-vapor lamp



Circuit diagram for SON and HPI / with series igniter (superimposed)



Specifications

Product name	Alternative for HPI (W)	Power (W)	Light output (lm)	Color temperature (K)	Dimmable	R _a value	Service life (h)		Packaging	Philips order no.
TrueForce LED Industrial and Retail InstantFit										
HPI 110-88W E40 840 60°	250	88	11,000	4,000	no	80	50,000	A ⁺	2	71378500
HPI 110-88W E40 840 120°		88	11,000	4,000	no	80	50,000	A ⁺	2	71382200
HPI 200-145W E40 840 60°	400	145	20,000	4,000	no	80	50,000	A ⁺	2	71386000
HPI 200-145W E40 840 120°		145	20,000	4,000	no	80	50,000	A ⁺	2	71388400

¹Please refer to compatibility list available at philips.com/trueforce-led-lamps



LED lamps are up to **65% more efficient** than conventional lamps, meaning that you can save energy costs without any reduction in lighting quality. The tables show the electricity cost savings per watt based on lighting time (in hours) and electricity price.

LED compared with a conventional solution	Metal halide lamp (HPI) 250W E40	TrueForce Industrial and Retail Mains 100W E40
Lamp wattage	250 W	100 W
Ballast power loss	24 W	0 W
System output	274 W	100 W
Savings per year		174 W

LED compared with a conventional solution	Metal halide lamp (HPI) BU 400 W E40	TrueForce Industrial and Retail Mains 160W E40
Lamp wattage	400 W	160 W
Ballast power loss	28 W	0 W
System output	428 W	160 W
Savings per year		268 W

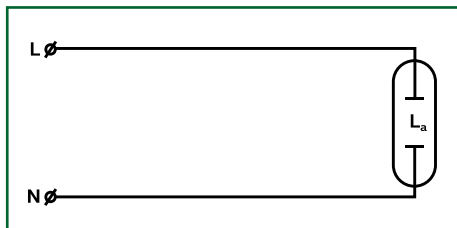
Energy savings from replacing a 250W lamp with a TrueForce Industrial and Retail Mains 100W, per year							
Lighting time per year	Electricity price/kWh per year						
	0.15 c	0.16 c	0.17 c	0.18 c	0.19 c	0.20 c	0.21 c
1,000	€ 26.10	€ 27.80	€ 29.60	€ 31.30	€ 33.10	€ 34.80	€ 36.50
2,000	€ 52.20	€ 55.70	€ 59.20	€ 62.60	€ 66.10	€ 69.60	€ 73.10
3,000	€ 78.30	€ 83.50	€ 88.70	€ 94.00	€ 99.20	€ 104.40	€ 109.60
4,000	€ 104.40	€ 111.40	€ 118.30	€ 125.30	€ 132.20	€ 139.20	€ 146.20
5,000	€ 130.50	€ 139.20	€ 147.90	€ 156.60	€ 165.30	€ 174.00	€ 182.70
6,000	€ 156.60	€ 167.00	€ 177.50	€ 187.90	€ 198.40	€ 208.80	€ 219.20
7,000	€ 182.70	€ 194.90	€ 207.10	€ 219.20	€ 231.40	€ 243.60	€ 255.80
8,000	€ 208.80	€ 222.70	€ 236.60	€ 250.60	€ 264.50	€ 278.40	€ 292.30

Energy savings from replacing a 400 W lamp with a TrueForce Industrial and Retail Mains 160W, per year							
Lighting time per year	Electricity price/kWh per year						
	0.15 c	0.16 c	0.17 c	0.18 c	0.19 c	0.20 c	0.21 c
1,000	€ 40.20	€ 42.90	€ 45.60	€ 48.20	€ 50.90	€ 53.60	€ 53.30
2,000	€ 80.40	€ 85.80	€ 91.10	€ 96.50	€ 101.80	€ 107.20	€ 112.60
3,000	€ 120.60	€ 128.60	€ 136.70	€ 144.70	€ 152.80	€ 160.80	€ 168.80
4,000	€ 160.80	€ 171.50	€ 182.20	€ 193.00	€ 203.70	€ 214.0	€ 225.10
5,000	€ 201.00	€ 214.40	€ 227.80	€ 241.20	€ 254.60	€ 268.00	€ 281.40
6,000	€ 241.20	€ 257.30	€ 273.40	€ 289.40	€ 305.50	€ 321.60	€ 337.70
7,000	€ 281.40	€ 300.20	€ 318.90	€ 337.70	€ 356.40	€ 375.20	€ 394.00
8,000	€ 321.60	€ 343.00	€ 364.50	€ 385.90	€ 407.40	€ 428.80	€ 450.20

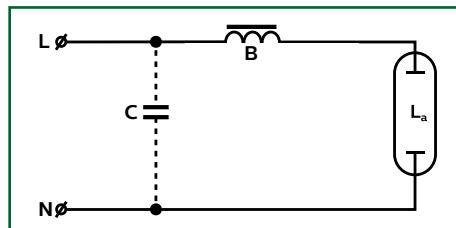
Simple installation in existing high-bay fixtures

The **TrueForce Industrial and Retail EM/Mains** enables easy upgrade to LED lighting. It can be operated on Direct Mains (220–240V) or with existing conventional electromagnetic ballast (igniter always must be removed from the system). For good thermal management, the fixture's glass cover should be removed (if applicable). In addition, a steel cable is attached to securely attach the lamp to the fixture.

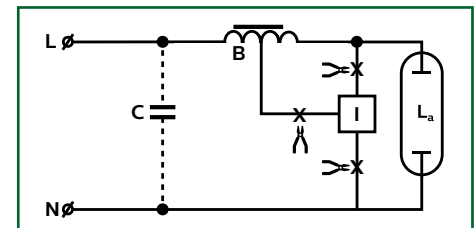
Circuit diagram for Direct Mains connection



Circuit diagram for HPL/mercury-vapor lamp



Circuit diagram for SON and HPI/ high-pressure sodium and metal halide lamps



Specifications

Product name	Traditional (W)	LED (W)	CCT (K)	CRI	Voltage (Vac)	"Input current" (mA)	Lifetime (hrs.)	Dimmable	Lumen output in measured cone	Lumen output		Dimensions (H x W)	Pack (pcs)	EOC
TrueForce LED Industrial and Retail EM/Mains														8718696
ND 120-100W E40 840 WB	250	100	4000	80	220-240	520	50,000	no	9,800	12,000	A+	252 x 211	2	959678100
ND 120-100W E40 840 NB		100	4000	80	220-240	520	50,000	no	8,500	12,000	A+	252 x 211	2	959676700
ND 200-160W E40 840 WB	400	160	4000	80	220-240	900	50,000	no	16,400	20,000	A+	263 x 211	2	959672900
ND 200-160W E40 840 NB		160	4000	80	220-240	900	50,000	no	14,500	20,000	A+	263 x 211	2	959670500

