

Actual Case

Zuoying & Yenchao Maintenance Stations of Taiwan High Speed Rail Corp.



Replacing 400W Metal Halide Lamps with YCC EFLs
Energy Saving up to 75% !!

Yenchao Maintenance Base of THSRC



Yenchao Maintenance Base of THSRC

LAMP TYPE		WATTAGE	LUX on THE GROUND of 10.5m HIGH (LUX)	MEASURED LUX
YCC EFL		K02-160W	397	
Metal Halide Lamp		400W	387	

Yenchao Maintenance Base of THSRC

Electricity Saving 3,202,744 KWh a Year

Lamp Type		Metal Halide Lamp 400W	Energy Saving EFL 160W YCK-K02-H03
Actual Power Consumption (Watts)		580W	160W
Current (A)		2.36 A	0.65 A
Power Factor (PF)		0.59	0.99
Actual LUX measured on the ground (Lamp at 10m above the ground)		387 LUX	397 LUX
Elec. Consumption per hour per lamp		0.58 KWh	0.16 KWh
Lamp Q'TY		1,741 Lamps	1,741 Lamps
Watts Consumption per hour		1,009.78 hours	278.56 hours
Elec. Saving per hour		0 KWh	731.22 KWh
Daily Lighting On		12 hours	
Annual Electricity Consumption		4,422,836 KWh	1,220,093 KWh
Annual Elec. Saving		0 KWh	3,202,744 KWh
Elec. Cost per KWh		US\$0.09	
Annual Elec. Cost		US\$412,650.64	US\$113,834.66
Annual Maintenance Cost	Parts	US\$25,000	US\$0
	Labor		US\$0
Annual Cost Saving (Air condition electricity bill NOT included yet)		Save \$0.00	Save \$323,815.98

Dialux Simulation

DIALux 燈光精靈

資料輸入
輸入空間要求的數據和選取燈具和安裝方式。

空間尺寸

長度 (a): 300.000 m
寬度 (b): 100.000 m
高度: 10.000 m

☐ 使用 L 形狀空間

c: 2.700 m
d: 1.800 m

畫出:

預覽:

燈具選項

燈具: YCCTEK YCK-K02-160W Ceiling Light

選取數量: YCCTEK

配光資料 1

光源: Ceiling Light

自定光通量:

光通量: 9449 lm

燈具安裝方式

安裝方式: 吸頂式

可由下列參數之一修改安裝高度:

懸吊高度: 0.000 m
與工作面的距離: 9.855 m
安裝高度: 10.000 m

尺寸 (長 x 寬 x 高): 0.565 x 0.565 x 0.045 m

反射係數

天花板: 70 % 標準天花板
牆壁: 50 % 標準牆壁
平面: 20 % 標準地板

空間參數

參考數據: 使用範例
維護係數: 0.80

工作面

高度: 0.100 m
與牆壁之間的距離: 0.000 m

工作區

< 上一步(B) 下一步(N) > 取消

Actual Illuminance 397 Lux is even higher than 366 Lux, which we got from Dialux simulation

DIALux 燈光模擬

計算和結果
計算和檢視空間。

燈具： YCCTEK YCK-K02-160W Ceiling Light

尺寸 (長 x 寬)
計算參數
照度： 500 lx 建議照度
排列中的 E_m： 2825 lx

平行排列
X軸燈具的數 60 5.00 m 2.50 m
Y軸燈具的數 22 4.50 m 2.75 m

垂直排列
Y軸燈具的數 22 4.50 m 2.75 m

排列參數
燈具旋轉角度： 90° 在空間內對中

等值線
自動
自訂 0.00 lx
貼上
刪除
標準值

照度分布圖

	0.39	1.17	1.95	2.73	3.52	4.30	5.08	5.86	6.64	7.42	8.20
298.83	176	194	208	211	221	218	223	220	224	221	223
296.48	194	225	233	240	247	247	251	246	257	247	259
294.14	219	255	264	272	280	278	286	277	292	276	296
291.80	232	273	280	289	296	292	304	292	311	292	315
289.45	245	286	297	308	314	312	320	312	326	311	329
287.11	257	292	308	316	323	324	326	325	332	326	335

平均照度 [lx] 最小照度 [lx] 最大照度 [lx] 照度 / 平均照度 照度 / 最大照度

366 175 394 0.48 0.44

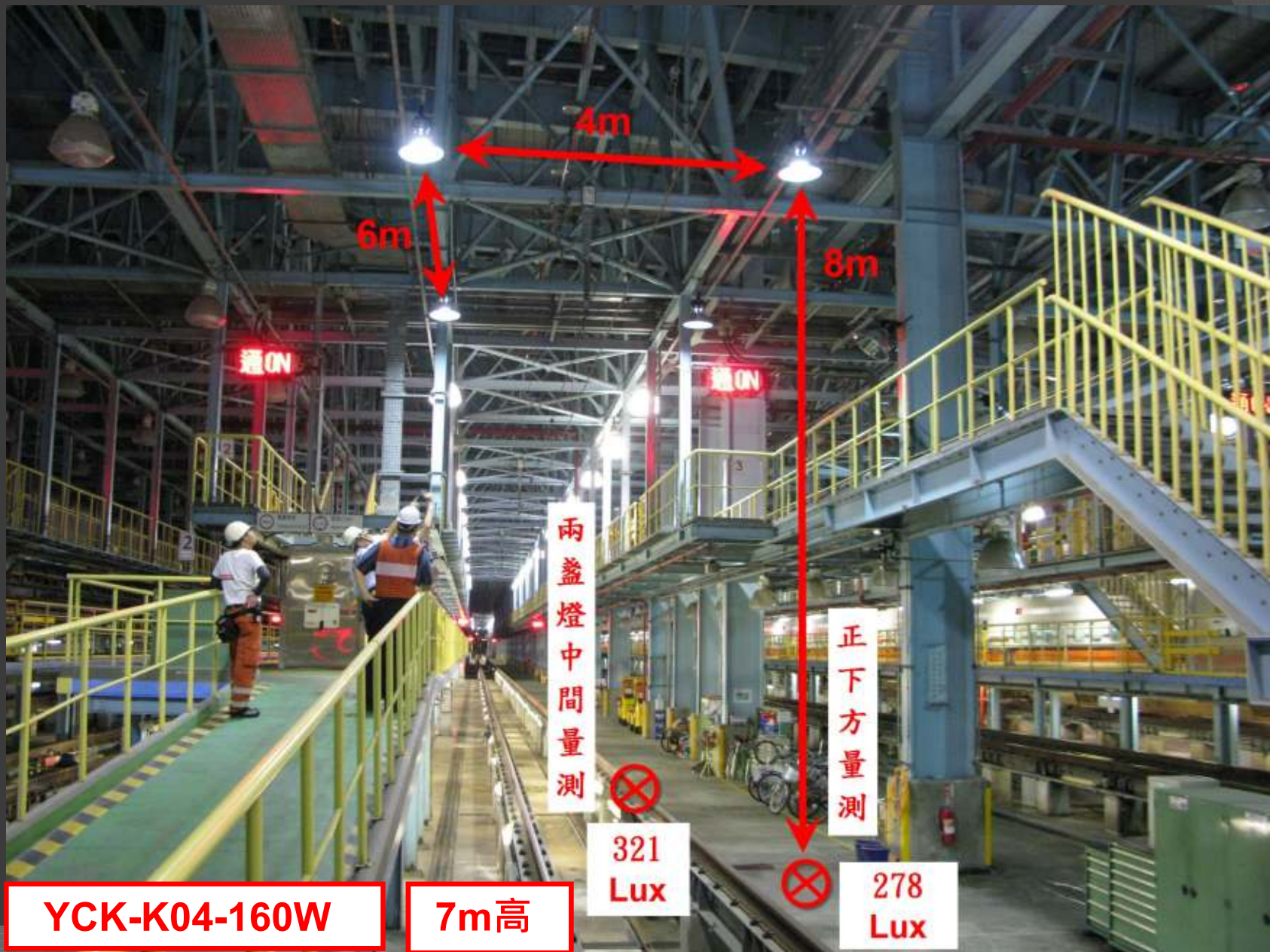
計算

< 上一步(B) 下一步(N) > 取消


Zuoying Maintenance Base of THSRC



- without Changing Original Installation Location
- 1 : 1 Replacing with YCC EFL 160W



YCC EFL vs Metal Halide Lamp

LAMP TYPE		WATTAGE	LUX on THE GROUND RIGHT BELOW THE LAMP (LUX)	MEASURED LUX	LUX on WORKPLANE BETWEEN 2 LAMPS (LUX)	MEASURED LUX
YCC EFL		K04 - 160W	YCC 278 MH 241		YCC 321 MH 286	
		K04 - 130W	YCC 208 MH 183		YCC 218 MH 190	
Metal Halide Lamp		400W	YCC 175 MH 160			

◎ Zuoying Maintenance Base of THSRC Electricity Saving 1,801,494 KWh a Year

Lamp Type		Metal Halide Lamp 400W	Energy Saving EFL 130W YCK-K04-H03
Actual Power Consumption (Watts)		580W	130W
Current (A)		2.36 A	0.55 A
Power Factor (PF)		0.59	0.99
Actual LUX measured on the ground (Lamp at 10m above the ground)		183 LUX	208 LUX
Elec. Consumption per hour per lamp		0.58 KWh	0.13 KWh
Lamp Q'TY		914 Lamps	914 Lamps
Watts Consumption per hour		530.12 hours	118.82 hours
Elec. Saving per hour		0 KWh	411.30 KWh
Daily Lighting On		12 hours	
Annual Electricity Consumption		2,321,926 KWh	520,432 KWh
Annual Elec. Saving		0 KWh	1,801,494 KWh
Elec. Cost per KWh		US\$0.09	
Annual Elec. Cost		US\$216,635.66	US\$48,556.27
Annual Maintenance Cost	Parts	US\$16,667	US\$0
	Labor		US\$0
Annual Cost Saving (Air condition electricity bill NOT included yet)		Save \$0.00	Save \$184,746.06