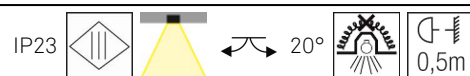


## DELTA COB

### 90-4852-N3-37

Downlight DELTA COB 38W 3000K CRI 90 40.4° Grey IP23 2977lm

#### TECHNICAL FEATURES



Power (W) : 38W

Raw lumens : 2977

Raw lm/W : 78

Colour temperature : LED warm-white 3000K

Lens / reflector angle : FLOOD 41°

Structure material : Aluminium

Structure finish : Grey

Diffuser material : Glass

Diffuser finish : Transparent

Equipment necessary but not included :

Warranty : 2 Years

Energy efficiency : LED A++



#### LUMINOTECHNIC FEATURES

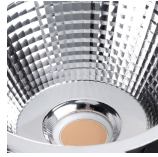
Light source: LED CREE

CRI: 90

Photobiological risk: RG1

#### LOGISTICS





71-2918-00-00

Reflector

Structure material: Aluminium

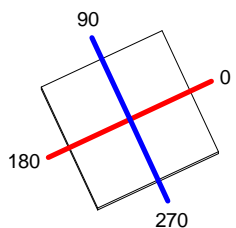
Dimensions: NA x NA x NA

Net weight (kg): 0.02

<b>Luminaire</b>		<b>Measur.</b>		<b>Lamp</b>		
Code	71-2916-N3-37	Code	71-2916-N3-37	Code	LED	
Name	LED CEILING LAMP	Name	LED CEILING LAMP	Number	1	
Line	DELTA COB	Date	07-08-2013	Position		
Efficiency	84.57%	Coordinate system	CG	Total Flux	3520.00 lm	
Maximum value	5262.66 cd	Position	C=90.00 G=1.00	Asymmetrical		
Rectangular Luminaire	Length	66 mm	Width	66 mm	Height	1 mm
Rectangular Luminous Area	Length	66 mm	Width	66 mm	Height	0 mm
Horizontal Luminous Area	0.004356 m2	Emitting area on Plane 180°		0.000000 m2		
Emitting area on Plane 0°	0.000000 m2	Emitting area on Plane 270°		0.000000 m2		
Emitting area on Plane 90°	0.000000 m2	Glare area at 76°		0.001054 m2		
Symmetry Type	Asymmetrical	Maximum Gamma Angle		90		
Measurement Distance	0.00	Measurement Flux		3520.00 lm		
Operator		Source voltage				
Temperature	25.00 °C	Source current				
Humidity	60.00 %	Photocell				
Notes						

Luminaire Lamps						
Line	Code	Name	Flux [lm]	Pow. [W]	Q.ty	
IESNA-1995	LED	CXA2530 - 38.50 W	3520.00	38.50	1	
C.I.E.	94 98 99 100 85	D DIN 5040		A60		
F UTE	0.85 A	B NBN		BZ 1		

66mm x 66mm



**C Halfplanes**

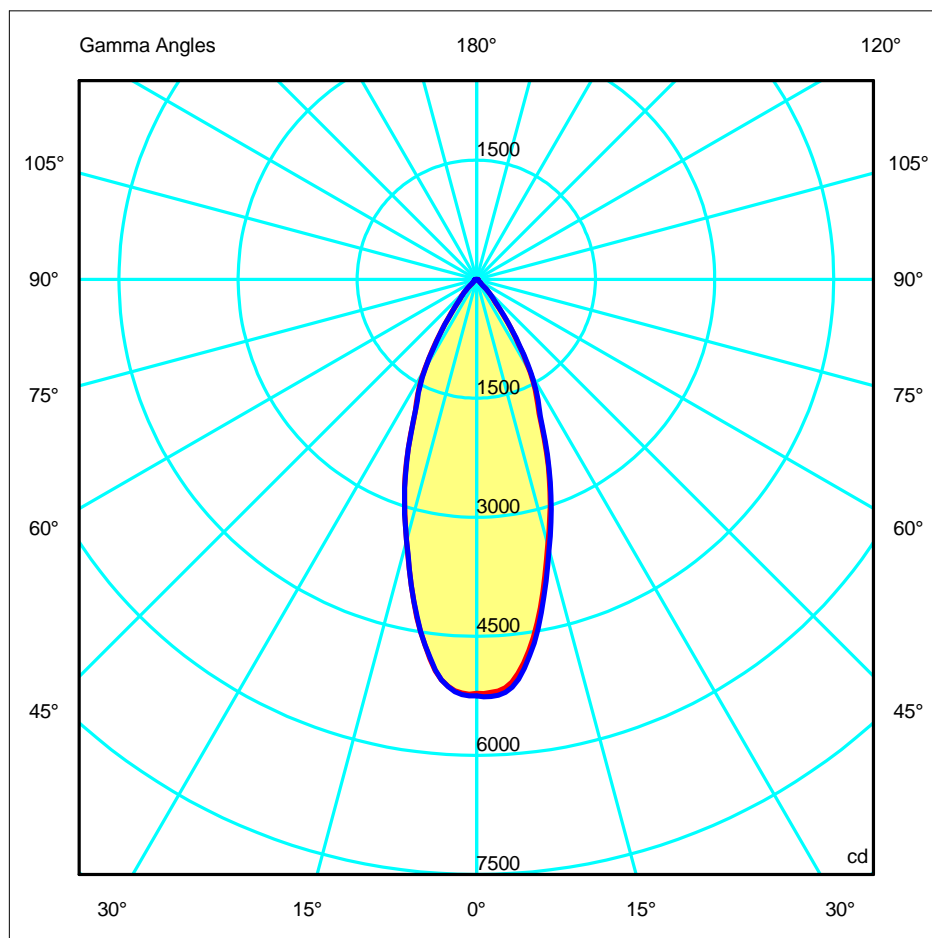
180.0 — 0.0 (Red line)

270.0 — 90.0 (Blue line)

ULOR 0.00 %

DLOR 84.57 %

RN 0.00 %



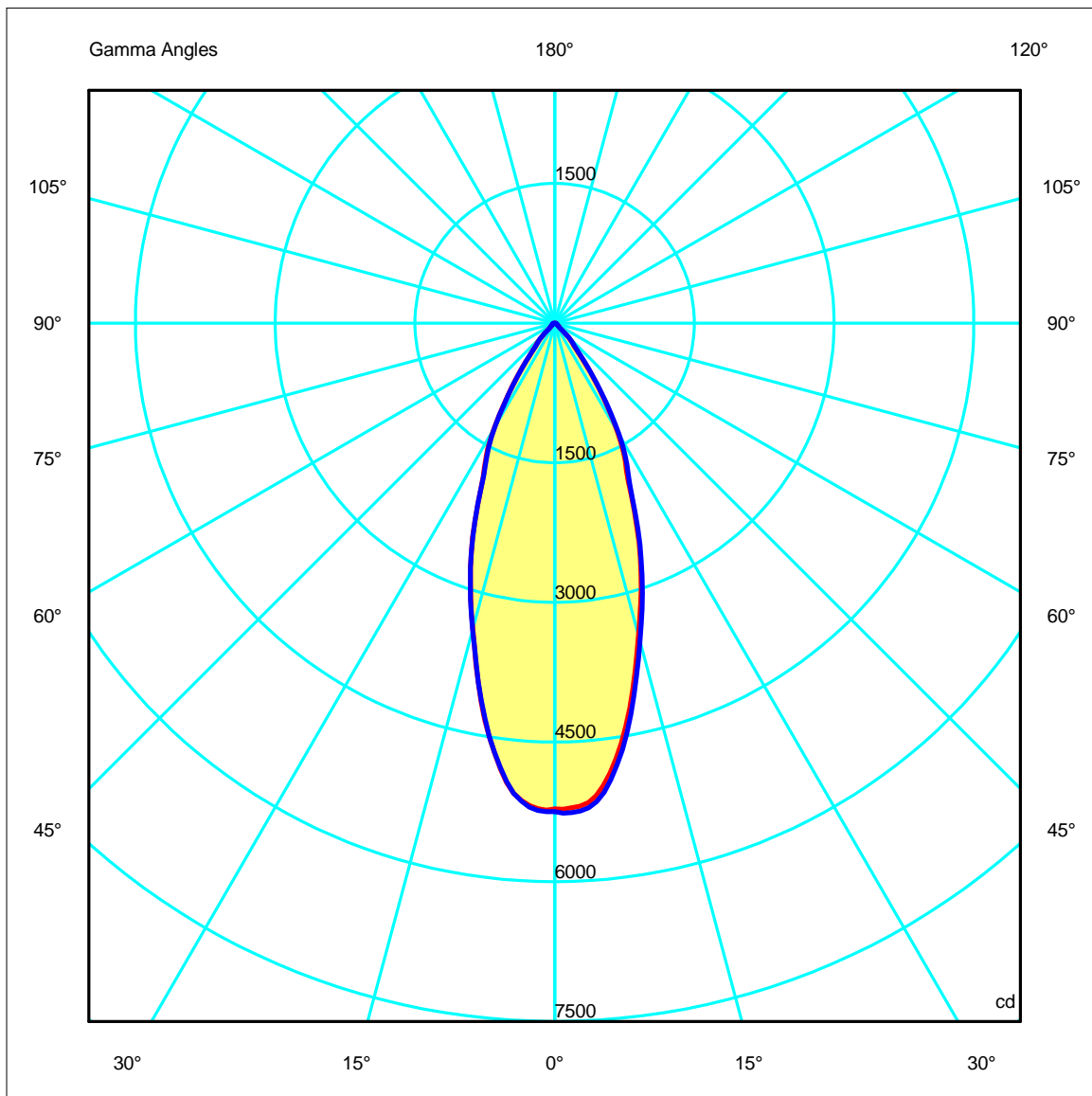
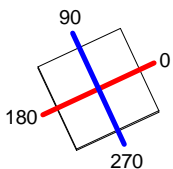
<b>Luminaire</b>		<b>Measur.</b>		<b>Lamp</b>	
Code	71-2916-N3-37	Code	71-2916-N3-37	Code	LED
Name	LED CEILING LAMP	Name	LED CEILING LAMP	Number	1
Line	DELTA COB	Date	07-08-2013	Position	
Efficiency	84.57%	Coordinate system	CG	Total Flux	3520.00 lm

66mm x 66mm

C Halfplanes

180.0 ————— 0.0

270.0 ————— 90.0



**Luminaire**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measur.**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

 Code LED  
 Number 1  
 Position

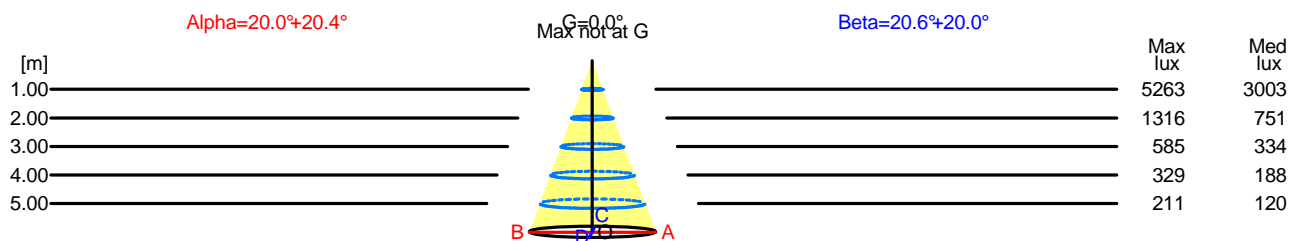
Efficiency	84.57%	Coordinate system	CG	Total Flux	3520.00 lm
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## Width at 50.00 % of MaxLux

H[m]	1.00	2.00	3.00	4.00	5.00	H[m]	1.00	2.00	3.00	4.00	5.00
OA	0.37	0.74	1.12	1.49	1.86	OC	0.38	0.75	1.13	1.50	1.88
OB	0.36	0.73	1.09	1.46	1.82	OD	0.36	0.73	1.09	1.46	1.82

## Luminous Intensities [ cd ]

	0	5	15	25	35	45	55	65	75	85
OA	5217.31	5094.79	3468.05	1866.83	751.96	173.42	38.59	24.62	20.57	16.82
OB	5217.31	5067.61	3401.23	1820.29	706.91	146.55	37.09	24.17	19.82	16.67
OC	5247.04	5158.00	3531.26	1904.82	778.99	165.62	38.44	23.12	18.32	15.47
OD	5247.04	5065.66	3404.23	1804.97	692.20	156.61	37.84	25.38	21.62	18.02



H[m]	D[m]	Max lux	Med lux	Alpha=20.0°+20.4°	G=0.0 Max not at G	
1.00	0.74	5263	3003			
2.00	1.47	1316	751			
3.00	2.21	585	334			
4.00	2.95	329	188			
5.00	3.68	211	120			

H[m]	D[m]	Max lux	Med lux	Beta=20.0°+20.6°	G=0.0 Max not at G	
1.00	0.74	5263	3003			
2.00	1.48	1316	751			
3.00	2.22	585	334			
4.00	2.96	329	188			
5.00	3.70	211	120			

**Luminaire**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measuram.**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

Code LED  
 Number 1  
 Position

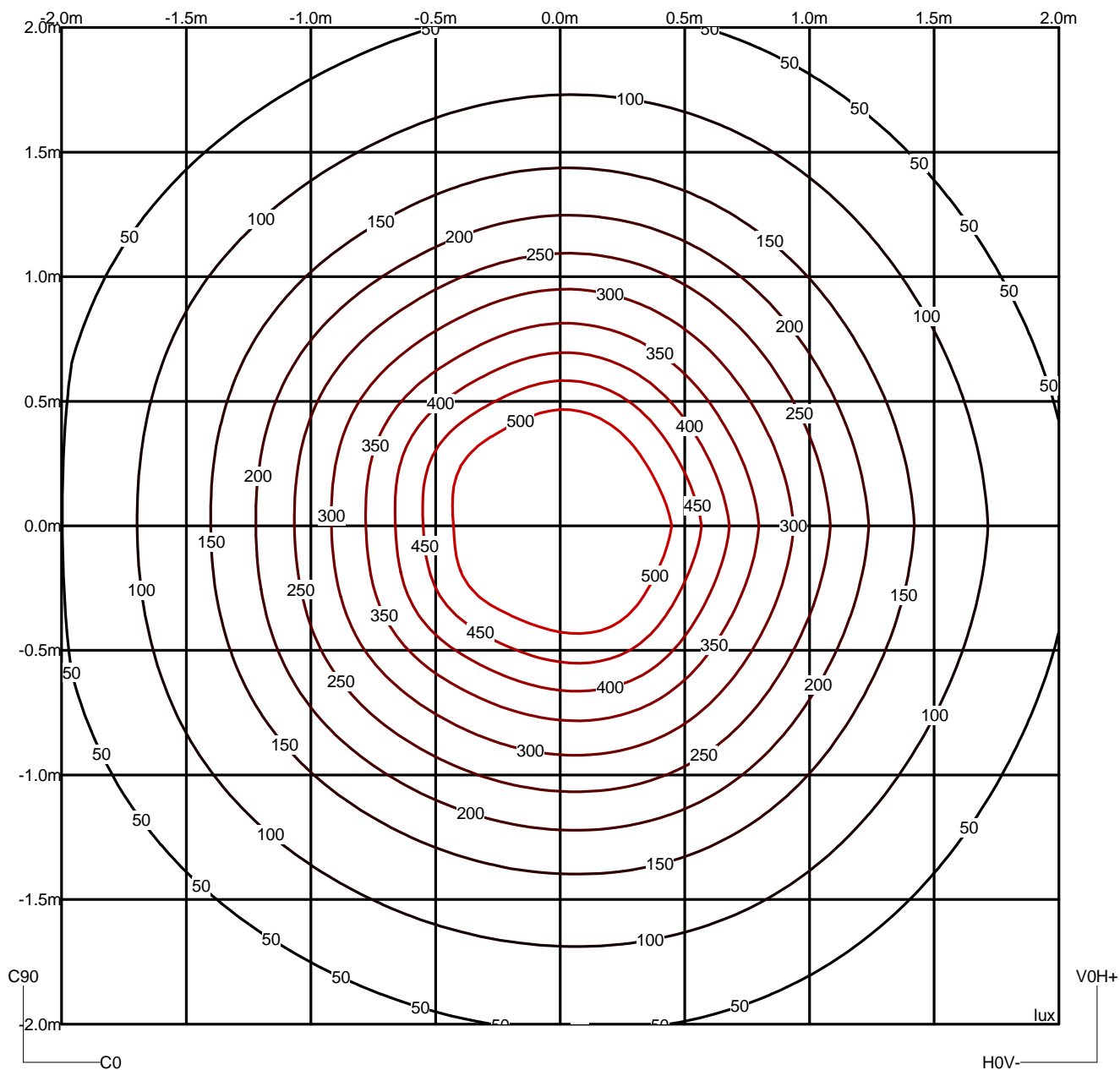
Efficiency 84.57%

Coordinate system CG

Total Flux 3520.00 lm

Isolux (Floor)

Luminaire position X=0.00m Y=0.00m Z=3.00m



**Luminaire**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measur.**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

Code LED  
 Number 1  
 Position

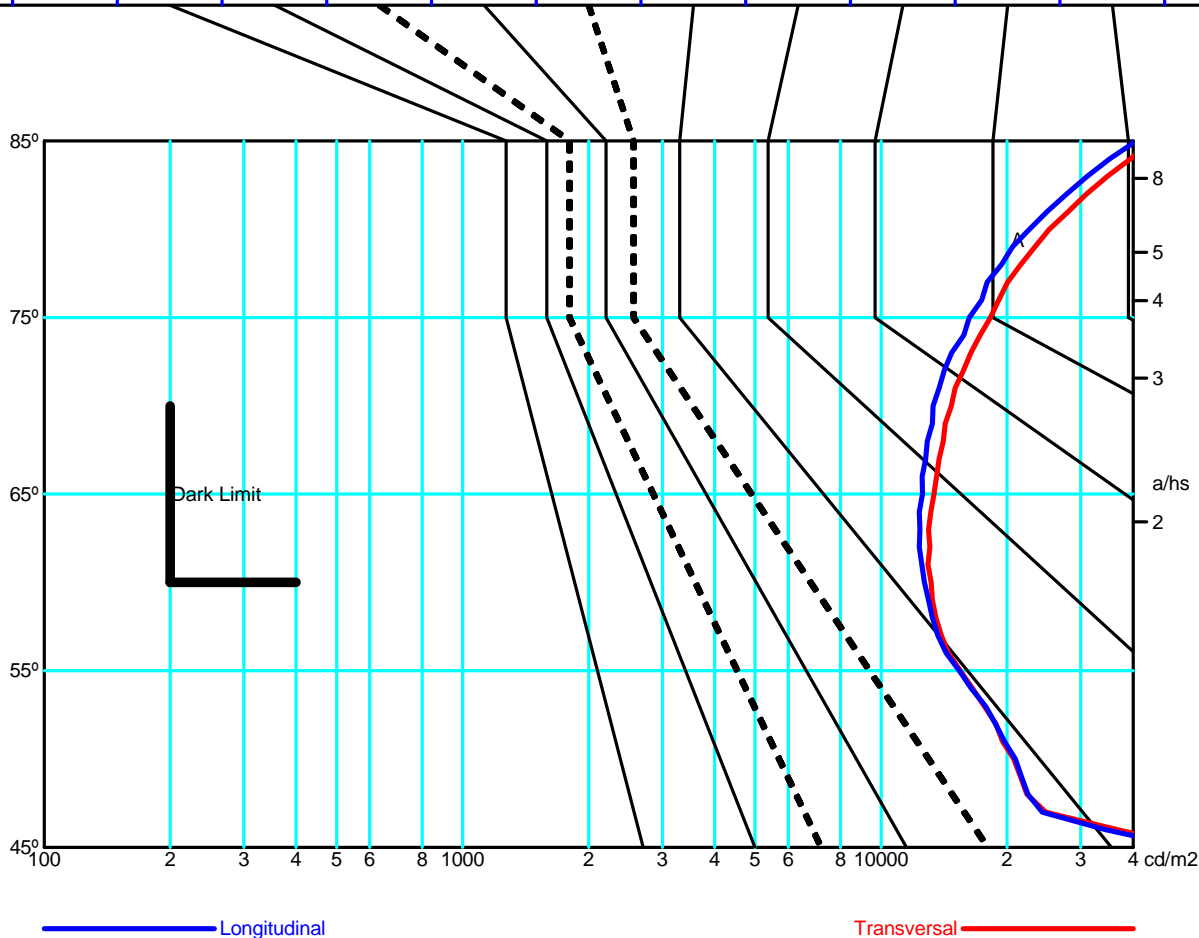
Efficiency 84.57%

Coordinate system CG

Total Flux 3520.00 lm

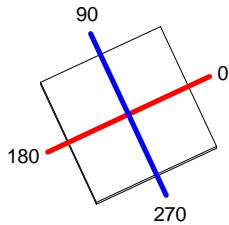
		Average Luminance [cd/m <sup>2</sup> ]										
		0.0°	45°	50°	55°	60°	65°	70°	75°	80°	85°	
0.0°	56302	20754	15445	13168	13374	14713	18245	25211	44304	---		
90.0°	53770	20914	15385	12686	12559	13303	16250	22633	40748	---		

Flush mounted or longitudinal view												
		Illumination (lx)										
A	A	2000	1000	750	500		<300				1.15	
B	1		2000	1500	1000	750	500	<300			1.5	
C					2000		1000	500	<300		1.85	
D	2						2000	1000	500	<300	2.2	
E	3							2000	1000	500	<300	2.55



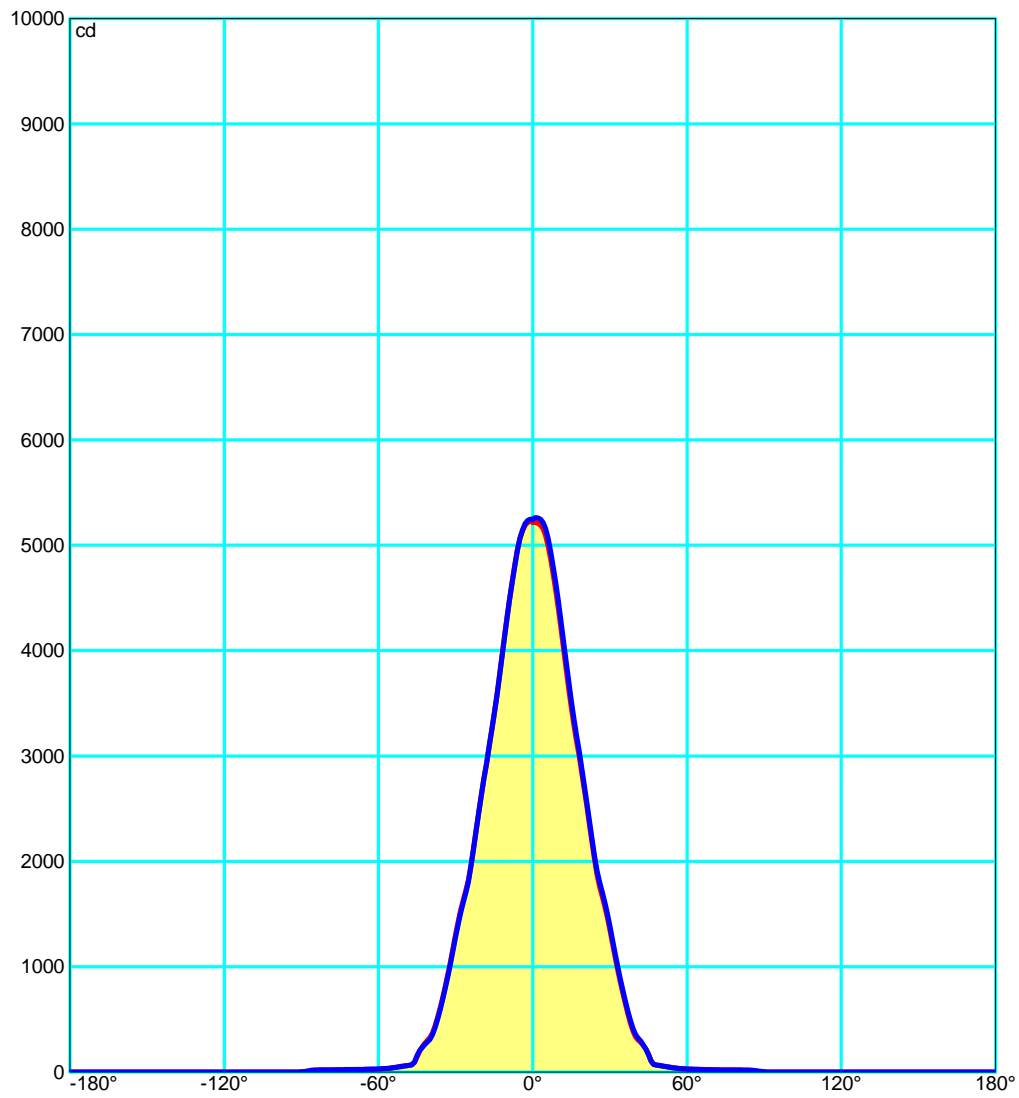
Luminaire		Measur.		Lamp	
Code	71-2916-N3-37	Code	71-2916-N3-37	Code	LED
Name	LED CEILING LAMP	Name	LED CEILING LAMP	Number	1
Line	DELTA COB	Date	07-08-2013	Position	
Efficiency	84.57%	Coordinate system	CG	Total Flux	3520.00 lm

66mm x 66mm



C Halfplanes

180.0 ——— 0.0  
270.0 ——— 90.0





<b>Luminaire</b>		<b>Measur.</b>		<b>Lamp</b>	
Code	71-2916-N3-37	Code	71-2916-N3-37	Code	LED
Name	LED CEILING LAMP	Name	LED CEILING LAMP	Number	1
Line	DELTA COB	Date	07-08-2013	Position	
Efficiency	84.57%	Coordinate system	CG	Total Flux	3520.00 lm

**UGR**  
S = 0.250

Reflectancies										
Ceiling/Cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
WorkingPlane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
RoomDimensions	ViewedCrosswise					ViewedEndwise				
x=2H y=2H	21.2	21.9	21.4	22.1	22.0	20.9	21.6	21.1	21.8	22.0
x=2H y=3H	21.3	21.9	21.5	22.1	22.1	21.0	21.7	21.3	21.9	22.1
x=2H y=4H	21.4	22.0	21.7	22.2	22.3	21.2	21.8	21.5	22.1	22.3
x=2H y=6H	21.7	22.2	22.0	22.5	22.7	21.6	22.1	21.9	22.4	22.7
x=2H y=8H	21.9	22.4	22.2	22.7	23.0	21.9	22.4	22.2	22.7	23.0
x=2H y=12H	22.2	22.7	22.6	23.1	23.4	22.2	22.7	22.6	23.1	23.4
x=4H y=2H	21.1	21.7	21.4	21.9	21.9	20.8	21.4	21.1	21.6	21.9
x=4H y=3H	21.2	21.8	21.6	22.1	22.2	21.0	21.5	21.4	21.9	22.2
x=4H y=4H	21.5	22.0	21.9	22.3	22.5	21.4	21.8	21.8	22.2	22.5
x=4H y=6H	22.0	22.4	22.4	22.7	23.1	22.0	22.3	22.4	22.7	23.1
x=4H y=8H	22.4	22.7	22.8	23.1	23.5	22.4	22.8	22.9	23.1	23.5
x=4H y=12H	23.0	23.2	23.4	23.6	24.2	23.1	23.4	23.5	23.7	24.2
x=8H y=4H	21.6	22.0	22.0	22.3	22.6	21.5	21.9	21.9	22.2	22.6
x=8H y=6H	22.3	22.6	22.8	23.0	23.5	22.4	22.6	22.8	23.0	23.5
x=8H y=8H	22.9	23.1	23.4	23.6	24.1	23.0	23.2	23.5	23.7	24.1
x=8H y=12H	23.7	23.9	24.2	24.3	25.0	23.9	24.0	24.4	24.5	25.0
x=12H y=4H	21.7	22.0	22.1	22.4	22.7	21.6	21.9	22.0	22.3	22.7
x=12H y=6H	22.5	22.7	22.9	23.1	23.6	22.5	22.7	23.0	23.1	23.6
x=12H y=8H	23.1	23.3	23.6	23.8	24.4	23.2	23.4	23.7	23.9	24.4

**Luminaire**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measur.**

Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

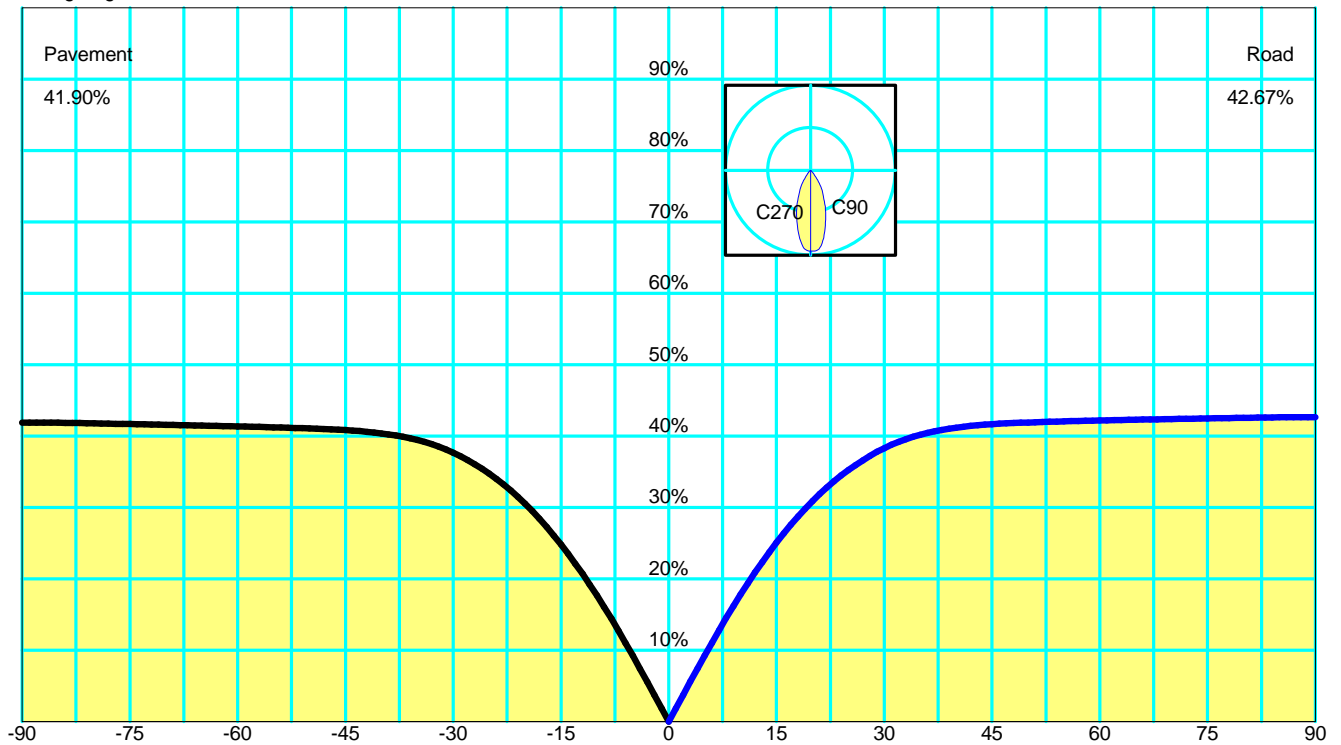
Code LED  
 Number 1  
 Position

Efficiency 84.57%      Coordinate system CG      Total Flux 3520.00 lm

Pavement			Road		
Piano	0	0.00%	Piano	0	0.00%
Piano	-5	9.23%	Piano	5	9.27%
Piano	-10	17.68%	Piano	10	17.82%
Piano	-15	24.82%	Piano	15	25.08%
Piano	-20	30.53%	Piano	20	30.89%
Piano	-25	34.75%	Piano	25	35.24%
Piano	-30	37.69%	Piano	30	38.31%
Piano	-35	39.46%	Piano	35	40.20%
Piano	-40	40.37%	Piano	40	41.18%
Piano	-45	40.85%	Piano	45	41.68%
Piano	-50	41.07%	Piano	50	41.90%
Piano	-55	41.23%	Piano	55	42.06%
Piano	-60	41.36%	Piano	60	42.19%
Piano	-65	41.48%	Piano	65	42.29%
Piano	-70	41.59%	Piano	70	42.39%
Piano	-75	41.69%	Piano	75	42.48%
Piano	-80	41.79%	Piano	80	42.56%
Piano	-85	41.87%	Piano	85	42.64%
Piano	-90	41.90%	Piano	90	42.67%

Tilting Angle = 0.0

DLOR = 84.57%



Spread 8.4° Narrow

Throw 4.1° Short

SLI (glare) 6.8 Tight

CIE Cutoff Cutoff - Max: C=90.0° Gamma=1.0°

IESNA Cutoff Cutoff

DIN5044 KB1

IESNA Type VS Very Short Quadrilateral Symmetry

DLOR 84.56770 %

ULOR 0.00000 %

Efficiency 84.56770 %

RN 0.00000 %

Luminous Intensity Class G5

Glare Index D5

**Luminaire**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measur.**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

 Code LED  
 Number 1  
 Position

Efficiency 84.57%

Coordinate system CG

Total Flux 3520.00 lm

Total Flux=3520.00 Luminaire Flux=2976.78

RI	0.60	0.80	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	10.00	20.00
DRR	0.69	0.74	0.79	0.83	0.85	0.90	0.93	0.95	0.97	0.98	1.01	1.01
RC	-	-	-	-	-	-	-	-	-	-	-	-

**Zonal Flux per 1000 Lumen**

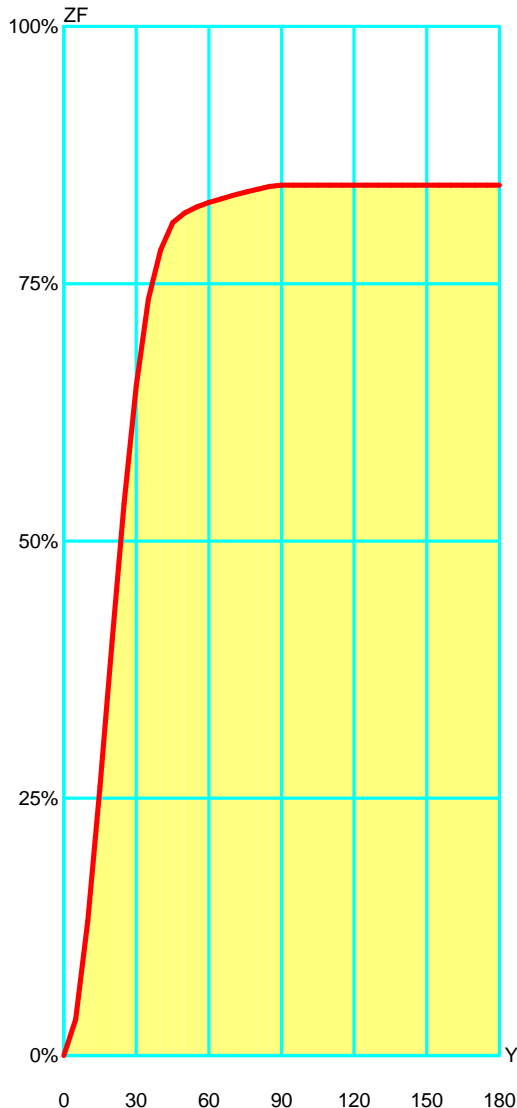
Y°	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
ZF(Y)	131	403	650	783	819	829	836	842	846	846	846	846	846	846	846	846	846	846

**CIE Flux Codes**

94 98 99 100 85

C.I.E.	-/-/-/-/-/-/-/-/-/-
D DIN 5040	A60
F UTE	0.85 A
B NBN	BZ 1
RN	0.00000 %
BLF	1.0

LOR	84.56770 %
ULOR	0.00000 %
DLOR	84.56770 %
UFF	0.00000 %
DFF	100.00000 %
FFR	0.00000 %



Zonal Flux				
Gamma °	Flux	Sum lm	Flux [%]	Sum [%]
0°	0.00	0.00	0.00%	0.00 %
5°	35.13	35.13	4.15 %	4.15 %
10°	96.01	131.13	11.35 %	15.51 %
15°	130.41	261.55	15.42 %	30.93 %
20°	141.86	403.41	16.77 %	47.70 %
25°	132.75	536.16	15.70 %	63.40 %
30°	114.26	650.43	13.51 %	76.91 %
35°	84.60	735.02	10.00 %	86.92 %
40°	47.68	782.71	5.64 %	92.55 %
45°	26.75	809.46	3.16 %	95.72 %
50°	9.26	818.71	1.09 %	96.81 %
55°	5.88	824.59	0.70 %	97.51 %
60°	4.22	828.81	0.50 %	98.01 %
65°	3.59	832.40	0.42 %	98.43 %
70°	3.28	835.68	0.39 %	98.82 %
75°	3.07	838.75	0.36 %	99.18 %
80°	2.93	841.67	0.35 %	99.53 %
85°	2.78	844.46	0.33 %	99.86 %
90°	1.22	845.68	0.14 %	100.00 %
95°	0.00	845.68	0.00 %	100.00 %
100°	0.00	845.68	0.00 %	100.00 %
105°	0.00	845.68	0.00 %	100.00 %
110°	0.00	845.68	0.00 %	100.00 %
115°	0.00	845.68	0.00 %	100.00 %
120°	0.00	845.68	0.00 %	100.00 %
125°	0.00	845.68	0.00 %	100.00 %
130°	0.00	845.68	0.00 %	100.00 %
135°	0.00	845.68	0.00 %	100.00 %
140°	0.00	845.68	0.00 %	100.00 %
145°	0.00	845.68	0.00 %	100.00 %
150°	0.00	845.68	0.00 %	100.00 %
155°	0.00	845.68	0.00 %	100.00 %
160°	0.00	845.68	0.00 %	100.00 %
165°	0.00	845.68	0.00 %	100.00 %
170°	0.00	845.68	0.00 %	100.00 %
175°	0.00	845.68	0.00 %	100.00 %
180°	0.00	845.68	0.00 %	100.00 %

**Luminaire**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Line DELTA COB

**Measur.**

 Code 71-2916-N3-37  
 Name LED CEILING LAMP  
 Date 07-08-2013

**Lamp**

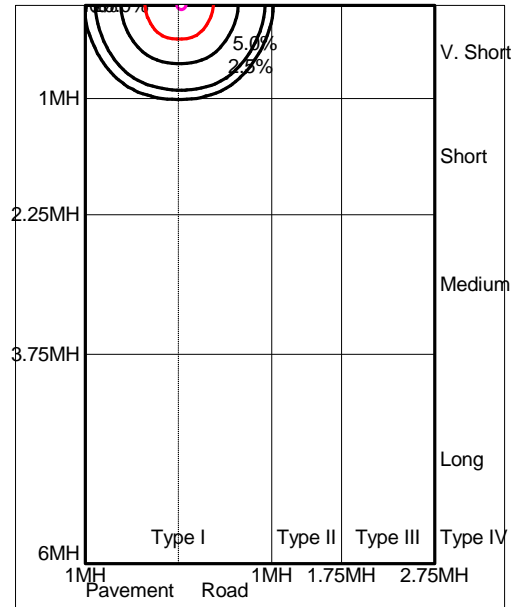
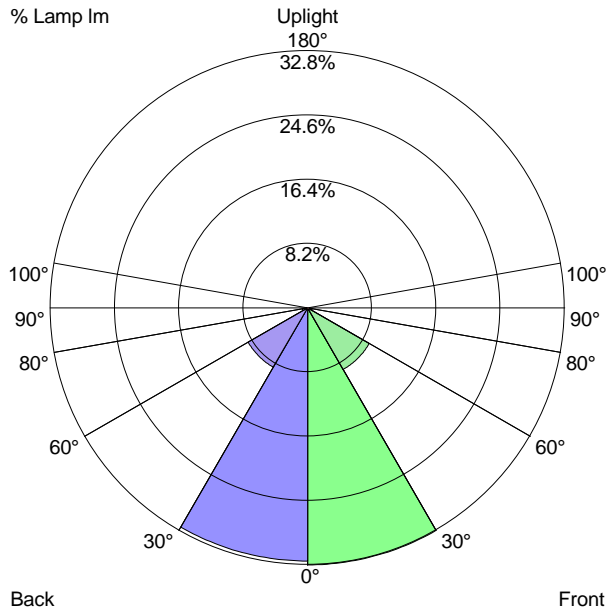
 Code LED  
 Number 1  
 Position

Efficiency 84.57%

Coordinate system CG

Total Flux 3520.00 lm

## US ROAD STANDARDS



Luminaire Classification System (LCS)			
LCS Zone		Lumens	%Lamp %Lum
FL	0°-- 30°	1153.7 lm	32.8 % 38.8 %
FM	30°-- 60°	319.8 lm	9.1 % 10.7 %
FH	60°-- 80°	21.7 lm	0.6 % 0.7 %
FVH	80°-- 90°	6.8 lm	0.2 % 0.2 %
BL	0°-- 30°	1136.2 lm	32.3 % 38.2 %
BM	30°-- 60°	307.7 lm	8.7 % 10.3 %
BH	60°-- 80°	23.6 lm	0.7 % 0.8 %
BVH	80°-- 90°	7.3 lm	0.2 % 0.2 %
UL	90°-- 100°	0.0 lm	0.0 % 0.0 %
UH	100°-- 180°	0.0 lm	0.0 % 0.0 %
<b>TOTALS</b>		<b>2976.8 lm</b>	<b>84.6 % 100.0 %</b>
BUG B3 U0 G0 Type VS Very Short Quadrilateral Symmetry			

