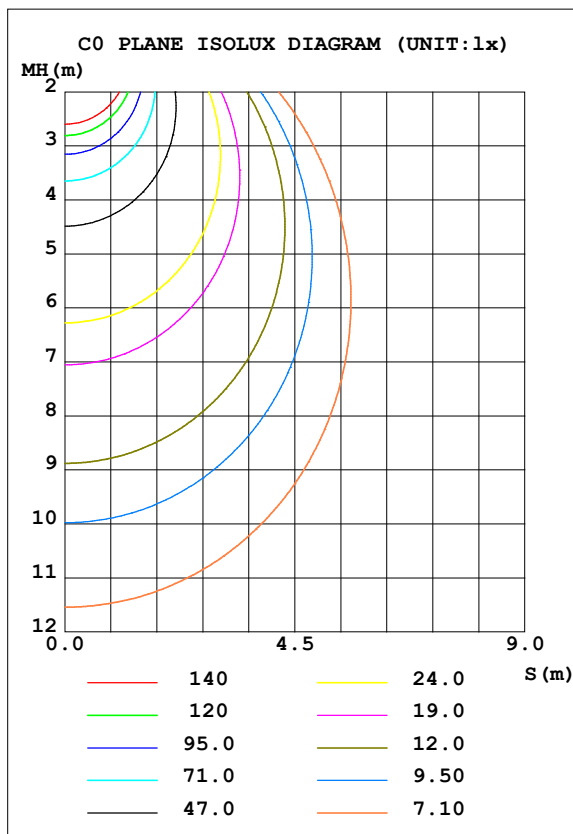
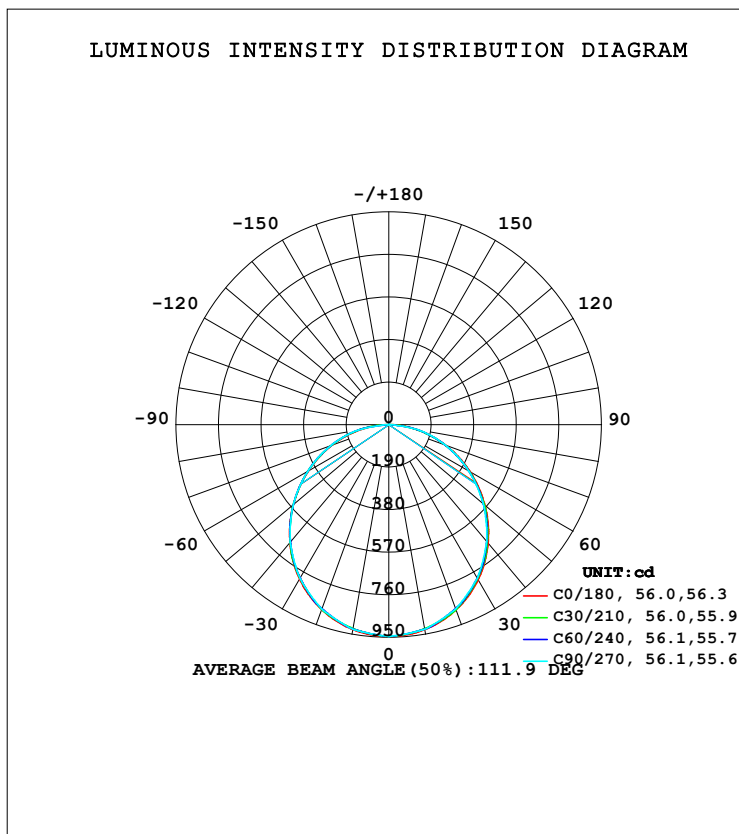


GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.43 lm/W			
MODEL SLP-36-36W-216Q41KR80		I _{max} (cd)	945.8	S/MH (C0/180)	1.25
NOMINAL POWER (W)	36	LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2707.9	η UP, DN (C0-180)	0.0, 49.8
NOMINAL FLUX (lm)	2707.91	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

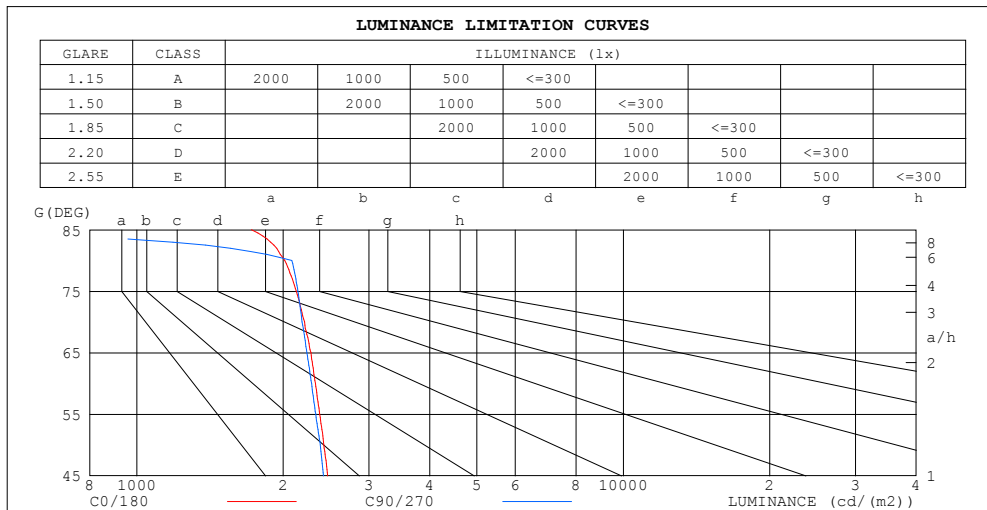
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	941.6	937.5	937.0	937.3	941.5	937.3	936.9	937.6	0- 5	22.50	22.50	0.83,0.83
10	929.6	925.5	928.2	924.3	928.9	924.6	928.0	925.7	5- 10	66.67	89.17	3.29,3.29
15	909.1	906.8	902.0	905.2	907.8	905.8	902.4	907.6	10- 15	108.6	197.8	7.3,7.3
20	879.9	874.3	875.7	872.5	878.7	873.6	876.9	875.2	15- 20	146.6	344.4	12.7,12.7
25	843.8	838.1	833.7	836.9	841.6	838.4	835.2	839.7	20- 25	179.7	524.1	19.4,19.4
30	799.7	793.3	791.7	791.6	797.0	793.5	793.4	795.1	25- 30	206.4	730.5	27,27
35	748.4	740.8	736.1	738.8	745.3	740.8	739.1	743.3	30- 35	226.1	956.5	35.3,35.3
40	690.8	685.5	680.5	683.0	687.2	685.4	684.8	688.6	35- 40	237.9	1194	44.1,44.1
45	628.1	620.4	616.1	618.5	624.2	622.0	621.0	624.3	40- 45	241.8	1436	53,53
50	560.9	554.8	551.6	554.2	556.9	558.8	557.1	559.7	45- 50	237.9	1674	61.8,61.8
55	491.0	483.8	481.6	483.2	486.8	488.2	487.7	489.4	50- 55	226.5	1901	70.2,70.2
60	419.3	413.6	411.6	413.1	415.0	418.3	418.3	419.6	55- 60	208.4	2109	77.9,77.9
65	346.8	340.1	340.5	341.7	342.8	347.2	347.0	346.3	60- 65	184.5	2294	84.7,84.7
70	272.3	267.7	269.3	271.0	269.3	276.1	275.8	273.8	65- 70	155.8	2449	90.5,90.5
75	198.1	196.0	199.8	200.0	196.2	204.4	205.6	201.5	70- 75	123.1	2573	95,95
80	126.0	123.3	130.2	129.9	124.3	133.8	135.4	128.2	75- 80	87.36	2660	98.2,98.2
85	54.02	33.37	0	36.74	47.46	38.17	0	35.17	80- 85	43.79	2704	99.8,99.8
90	1.215	0	0	0	0.6352	0	0	0	85- 90	4.239	2708	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1722	0
80	2016	2083
75	2126	2144
70	2212	2187
65	2279	2238
60	2329	2287
55	2378	2332
50	2424	2384
45	2467	2420

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

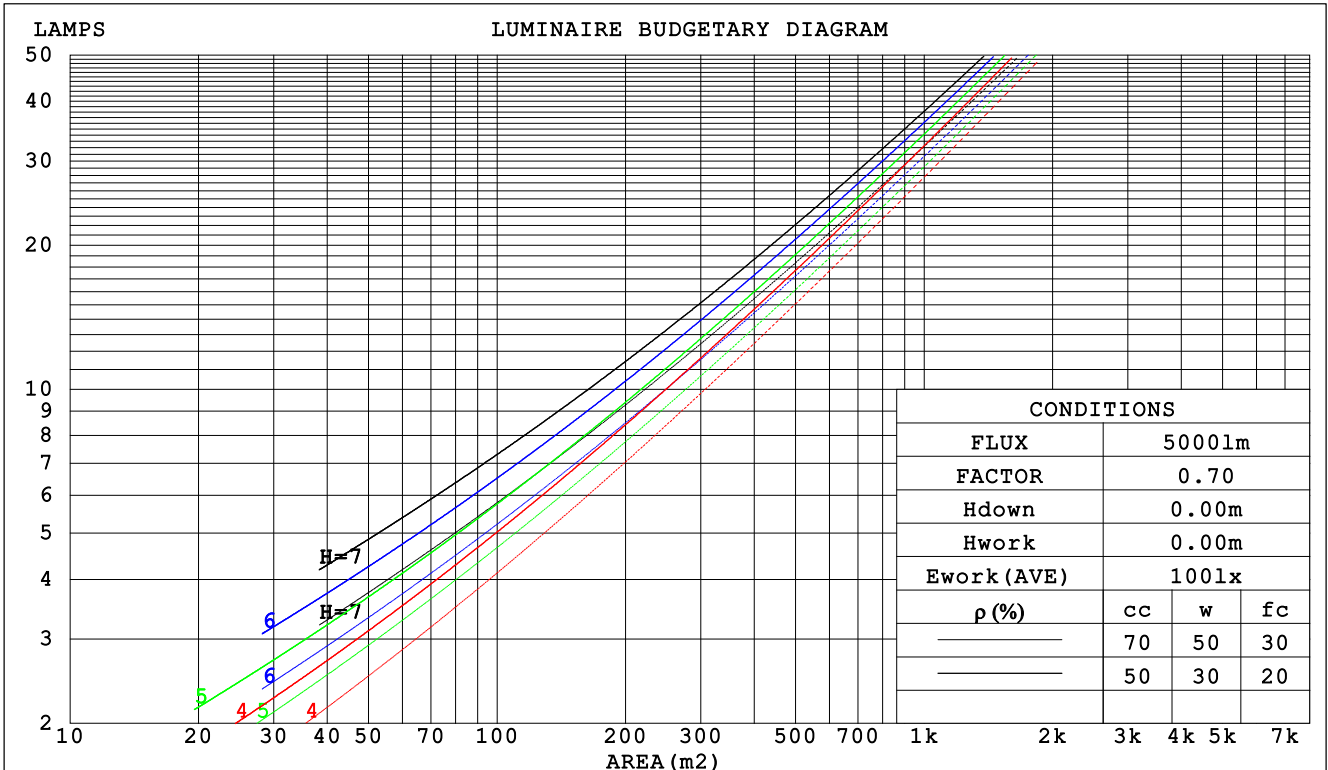
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: E
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.91	.88	.90	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.77	.70	.63	.74	.68	.62	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.61	.56	.52	.49
5.0	.62	.53	.47	.61	.53	.46	.59	.52	.46	.57	.50	.45	.55	.49	.45	.43
6.0	.56	.47	.41	.55	.47	.40	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.48	.41	.35	.47	.40	.35	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.28	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm								
NAME: LED PANEL			TYPE: Recessed			WEIGHT: 1.8		
SPEC.: 3060			DIM.: 295*595*9			SERIAL No.:		
MFR.:			SUR.: 0.36			PROTECTION ANGLE:		

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.313	.178	.056	.306	.174	.055	.293	.168	.054	.280	.162	.052	.269	.156	.050	
2.0	.295	.162	.050	.288	.159	.049	.277	.154	.048	.266	.149	.047	.256	.145	.046	
3.0	.272	.145	.043	.267	.143	.043	.256	.139	.042	.247	.135	.041	.238	.132	.041	
4.0	.251	.130	.038	.246	.129	.038	.237	.126	.038	.228	.123	.037	.220	.120	.036	
5.0	.232	.118	.034	.227	.117	.034	.219	.114	.034	.212	.112	.033	.205	.109	.033	
6.0	.215	.108	.031	.211	.107	.031	.204	.104	.030	.197	.102	.030	.190	.100	.030	
7.0	.200	.099	.028	.196	.098	.028	.190	.096	.028	.184	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.084	.024	.172	.084	.024	.167	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.076	.022	.148	.075	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.181	.156	.134	.154	.134	.115	.106	.092	.080	.061	.053	.046	.019	.017	.015	
2.0	.173	.132	.098	.148	.114	.084	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm										
NAME: LED PANEL					TYPE: Recessed			WEIGHT: 1.8		
SPEC.: 3060					DIM.: 295*595*9			SERIAL No.:		
MFR.:					SUR.: 0.36			PROTECTION ANGLE:		
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
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	15.9	17.4	16.1	17.6	17.8	15.8	17.3	16.1	17.5	17.7
3H	17.5	18.9	17.8	19.1	19.4	17.4	18.8	17.7	19.1	19.3
4H	18.2	19.5	18.5	19.8	20.0	18.1	19.5	18.4	19.7	20.0
6H	18.7	19.9	19.0	20.2	20.5	18.7	20.0	19.0	20.2	20.5
8H	18.8	20.0	19.1	20.3	20.6	18.8	20.0	19.2	20.3	20.6
12H	18.9	20.0	19.2	20.3	20.6	18.8	20.0	19.1	20.3	20.6
4H 2H	16.5	17.8	16.8	18.1	18.4	16.4	17.8	16.7	18.0	18.3
3H	18.3	19.5	18.7	19.8	20.1	18.3	19.4	18.6	19.7	20.0
4H	19.1	20.2	19.5	20.5	20.9	19.1	20.2	19.5	20.5	20.8
6H	19.7	20.7	20.1	21.0	21.4	19.8	20.8	20.2	21.1	21.5
8H	19.9	20.8	20.3	21.2	21.5	20.0	20.9	20.4	21.2	21.6
12H	20.0	20.8	20.4	21.2	21.6	20.0	20.8	20.4	21.2	21.6
8H 4H	19.4	20.3	19.8	20.7	21.1	19.4	20.3	19.8	20.7	21.1
6H	20.2	20.9	20.6	21.3	21.8	20.3	21.0	20.7	21.4	21.9
8H	20.4	21.1	20.9	21.5	22.0	20.5	21.2	21.0	21.6	22.1
12H	20.6	21.1	21.0	21.6	22.1	20.5	21.1	21.0	21.6	22.0
12H 4H	19.4	20.3	19.9	20.7	21.1	19.4	20.3	19.9	20.6	21.0
6H	20.3	20.9	20.7	21.4	21.8	20.4	21.0	20.8	21.4	21.9
8H	20.6	21.1	21.0	21.6	22.1	20.6	21.2	21.1	21.6	22.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.1 / - 0.3					+ 0.1 / - 0.3				
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 2708 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.5)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	65	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	74
3.00	102	95	89	100	94	88	96	91	86	78
4.00	106	100	96	104	99	94	99	95	92	83
5.00	109	104	100	106	102	98	102	98	95	86
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

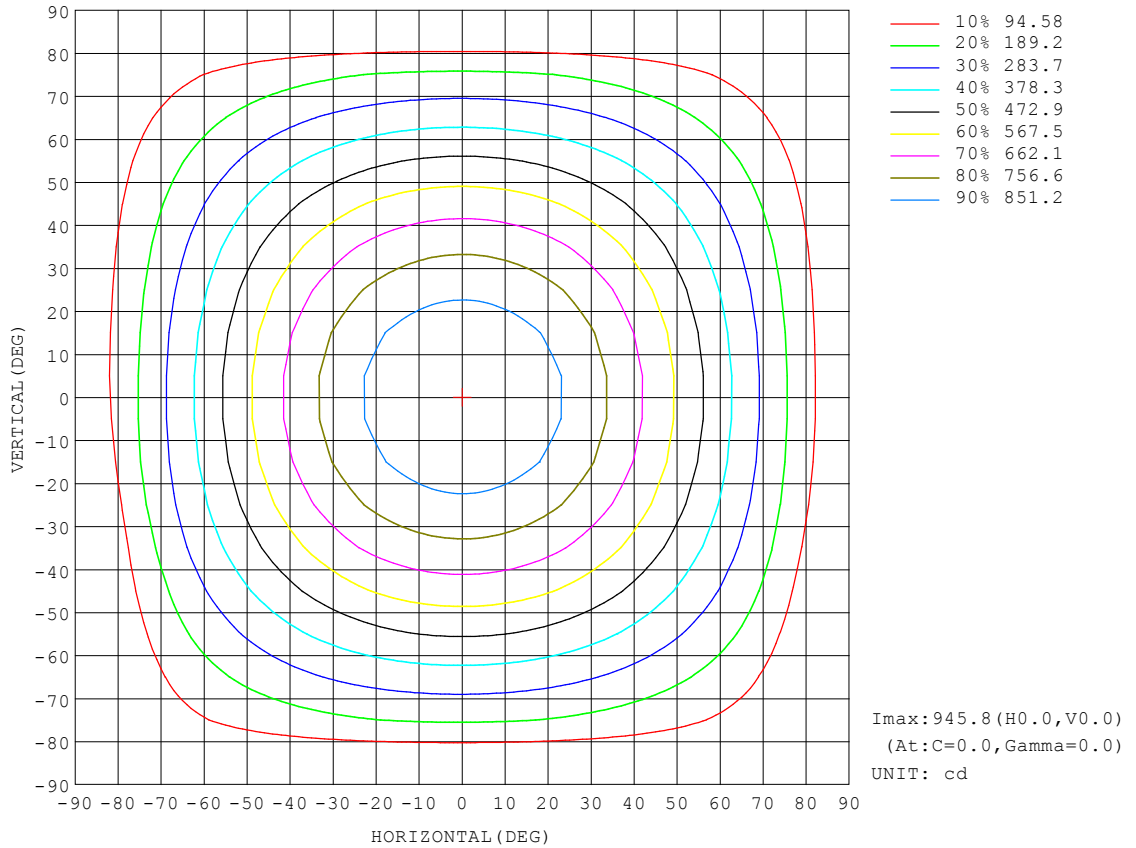
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: E
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:



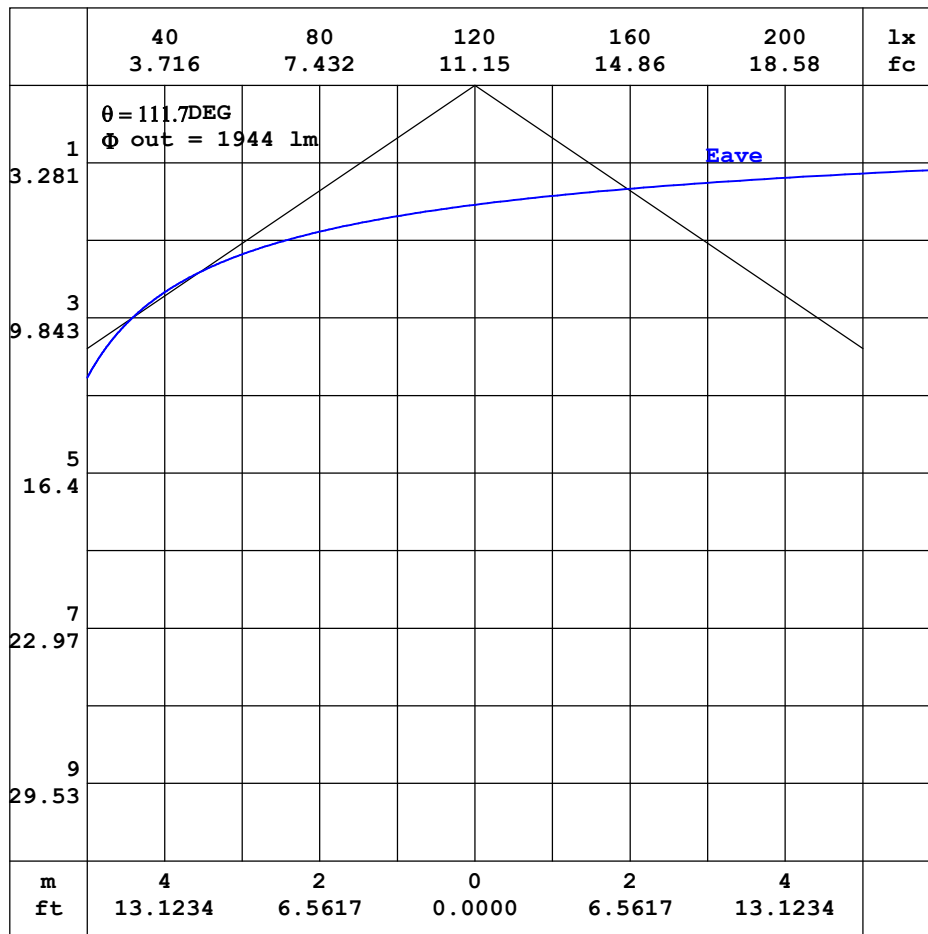
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: E
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

AAI CURVES

Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

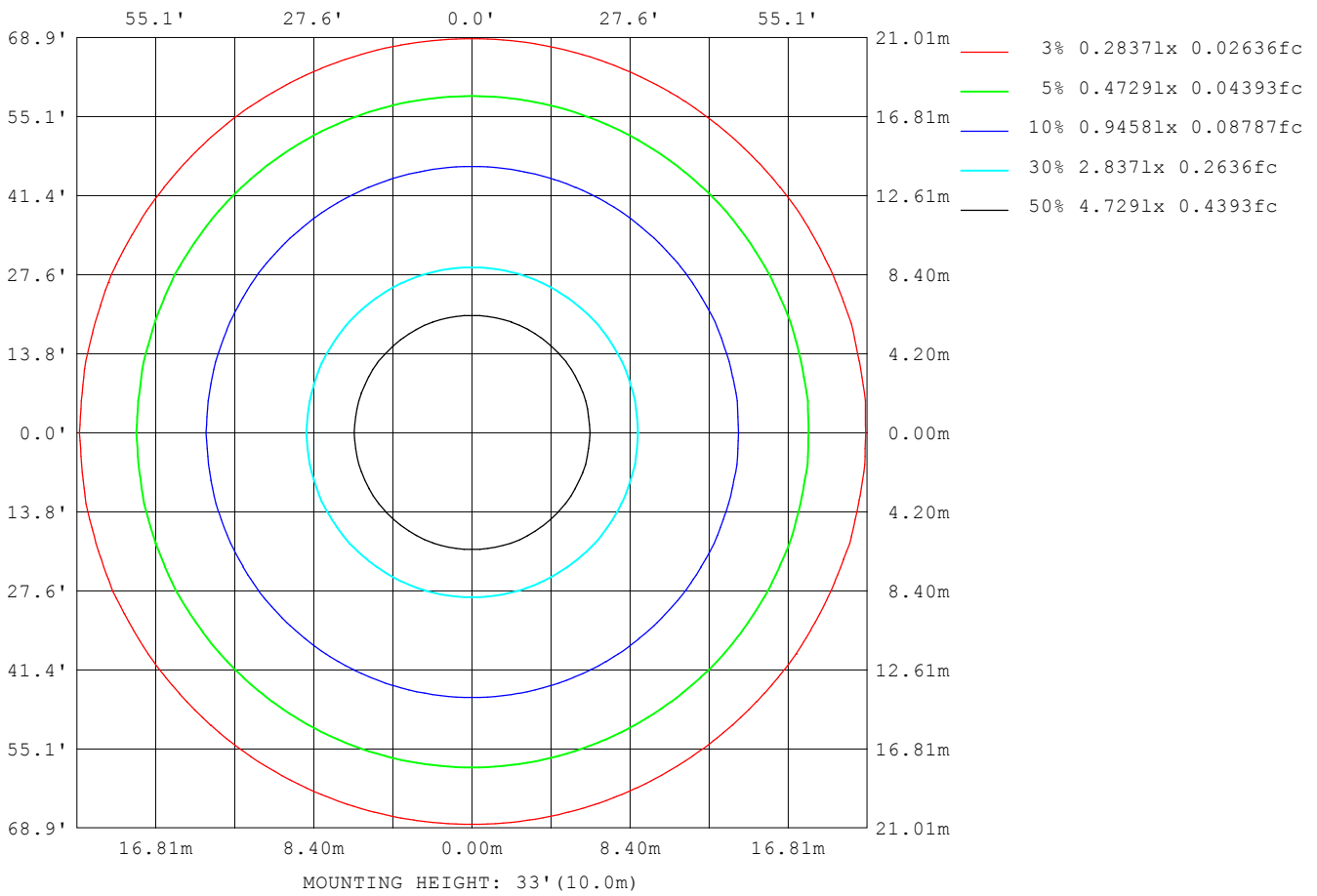
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

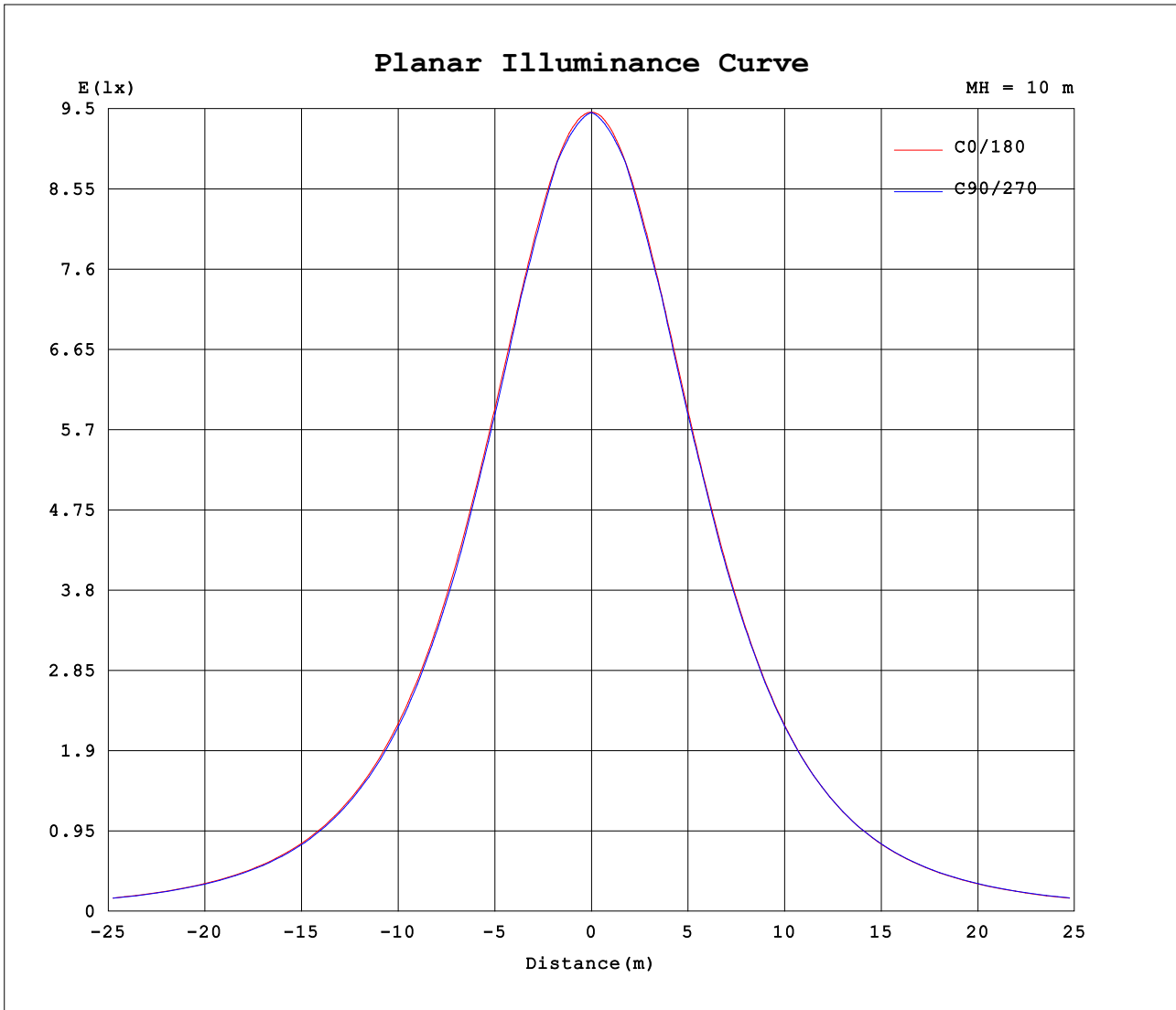
Test:U:220.0V I:0.1750A P:35.90W PF:0.9330 Lamp Flux:2707.91x1 lm		
NAME: LED PANEL	TYPE: Recessed	WEIGHT: 1.8
SPEC.: 3060	DIM.: 295*595*9	SERIAL No.:
MFR.:	SUR.: 0.36	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: E
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: T01
 Test Date: 2014-11-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:
 Humidity: 65.0%
 Test Distance: 9.890m [K=1.0000]
 Remarks: 4100K

