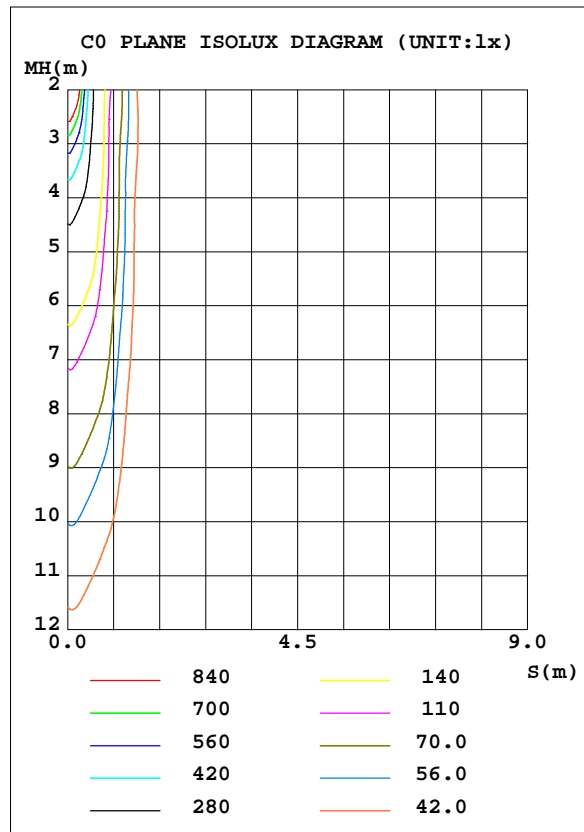
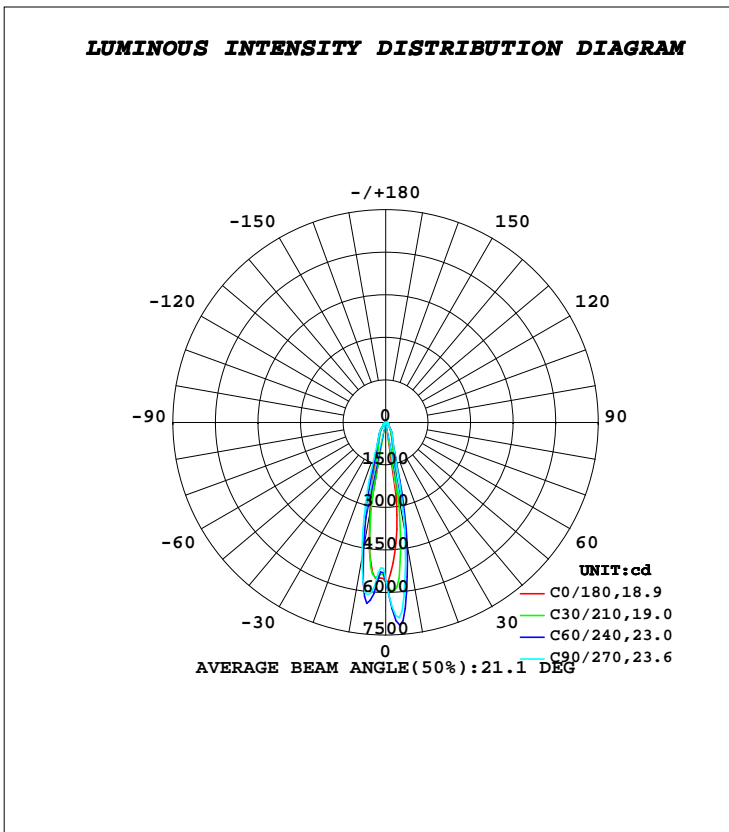


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	7167	S/MH(C0/180)	0.28
NOMINAL POWER(W)	35	LOR(%)	100.0	S/MH(C90/270)	0.37
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1561.2	η UP, DN(C0-180)	1.4,46.6
NOMINAL FLUX(lm)	1561.16	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.6,50.3
LAMPS INSIDE	1	η up(%)	3.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	24	η down(%)	97.0	CIBSE SHR MAX	0.30



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

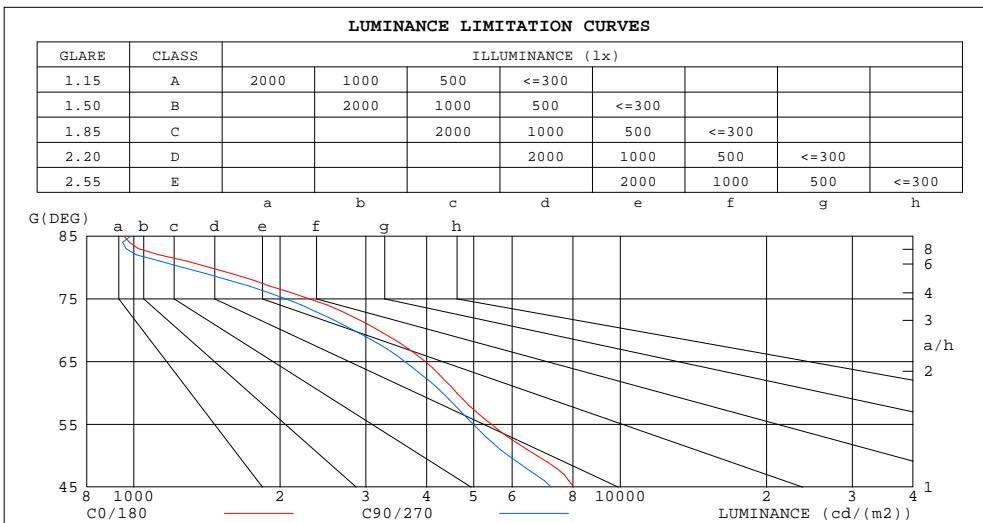
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2145	3429	3916	2493	3183	3704	4807	2447	0- 10	435.8	435.8	27.9,27.9
20	680.0	718.7	781.8	682.0	744.5	811.3	974.1	720.2	10- 20	421.3	857.1	54.9,54.9
30	366.4	422.4	446.0	373.0	406.6	420.4	451.0	371.5	20- 30	248.9	1106	70.8,70.8
40	213.3	180.9	155.3	155.3	157.2	171.6	173.9	187.8	30- 40	177.9	1284	82.2,82.2
50	108.4	99.98	94.72	92.17	100.7	102.2	101.4	103.2	40- 50	99.42	1383	88.6,88.6
60	57.63	55.83	53.92	51.85	58.44	61.17	59.70	55.96	50- 60	68.18	1452	93,93
70	27.22	25.87	24.21	23.48	28.03	29.38	28.83	27.50	60- 70	40.65	1492	95.6,95.6
80	6.227	5.862	5.487	5.729	8.648	9.120	9.392	9.964	70- 80	16.90	1509	96.7,96.7
90	1.558	1.590	1.513	1.450	4.086	4.024	3.976	3.927	80- 90	4.501	1514	97,97
100	2.414	2.674	2.509	2.268	4.224	4.227	4.164	4.061	90-100	3.244	1517	97.2,97.2
110	5.129	4.884	4.311	4.220	5.028	4.920	4.873	4.753	100-110	4.185	1521	97.4,97.4
120	5.948	5.692	6.128	6.189	6.953	6.723	6.685	6.616	110-120	5.532	1527	97.8,97.8
130	6.427	6.829	7.179	6.754	8.722	8.671	8.421	8.268	120-130	6.194	1533	98.2,98.2
140	10.29	10.43	10.47	10.00	11.47	11.27	11.32	11.07	130-140	6.962	1540	98.6,98.6
150	14.60	14.65	14.62	14.17	15.53	15.15	14.92	14.82	140-150	7.999	1548	99.1,99.1
160	17.40	16.64	16.92	16.83	18.58	17.81	17.85	17.18	150-160	7.497	1555	99.6,99.6
170	14.05	13.44	14.42	14.73	15.79	15.37	15.08	14.30	160-170	4.684	1560	99.9,99.9
180	11.56	12.12	12.17	11.95	11.72	12.16	12.15	11.94	170-180	1.268	1561	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-04-24

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	956	986
80	1434	1264
75	2298	2055
70	3183	2832
65	3978	3612
60	4611	4314
55	5441	4989
50	6748	5894
45	8034	7209

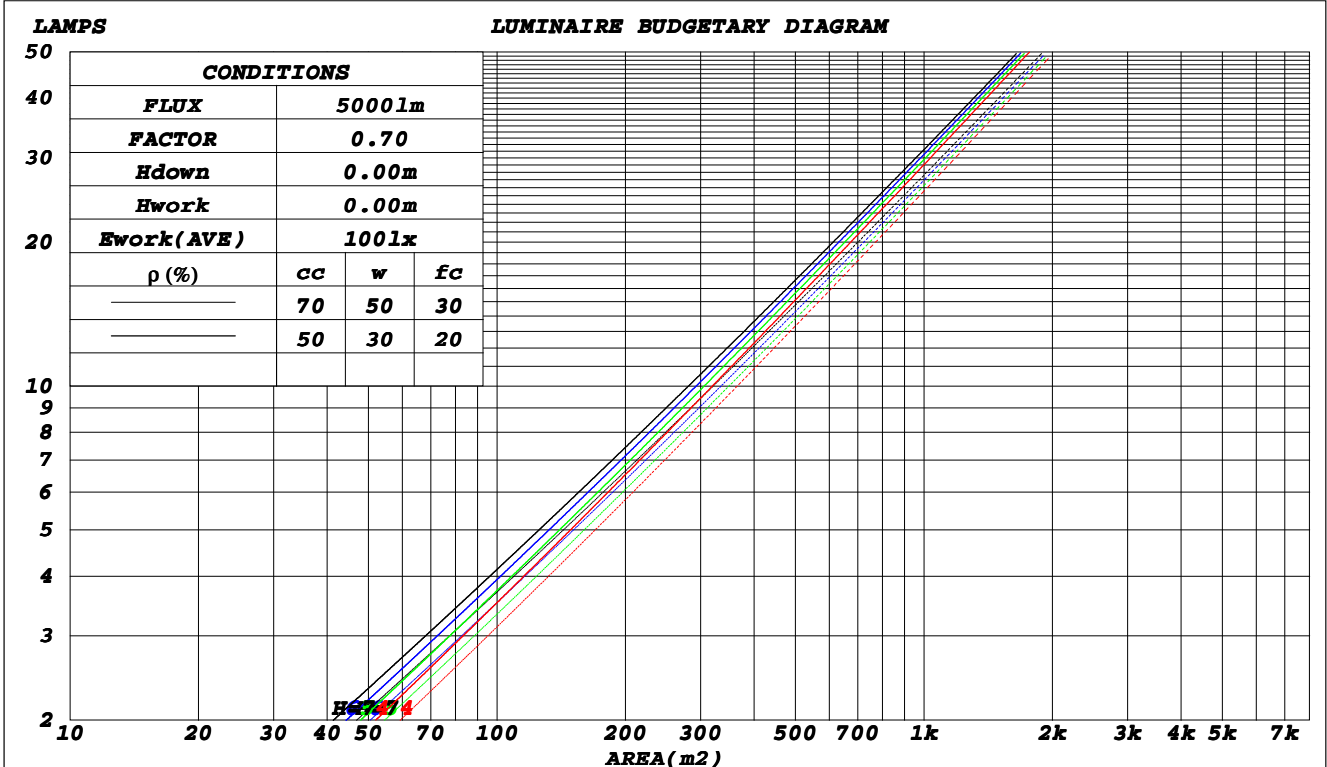
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

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	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.10	1.07	1.05	1.07	1.05	1.03	1.03	1.01	.99	.99	.97	.96	.95	.94	.93	.91
2.0	1.02	.98	.95	1.00	.97	.94	.97	.94	.91	.93	.91	.89	.90	.88	.87	.85
3.0	.96	.91	.87	.94	.90	.86	.91	.88	.85	.88	.85	.83	.86	.83	.81	.80
4.0	.90	.85	.81	.89	.84	.80	.86	.82	.79	.84	.81	.78	.82	.79	.77	.75
5.0	.85	.80	.76	.84	.79	.75	.82	.78	.74	.80	.76	.74	.78	.75	.73	.71
6.0	.81	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.75	.72	.69	.68
7.0	.77	.72	.68	.77	.71	.68	.75	.70	.67	.74	.70	.67	.72	.69	.66	.65
8.0	.74	.69	.65	.73	.68	.65	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
9.0	.71	.66	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.67	.64	.61	.60
10.0	.68	.63	.60	.68	.63	.60	.67	.62	.59	.66	.62	.59	.65	.61	.59	.58



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2021-04-24

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.180	.103	.032	.173	.098	.031	.158	.091	.029	.145	.084	.027	.133	.077	.025	
2.0	.170	.093	.029	.164	.090	.028	.151	.084	.026	.140	.079	.025	.130	.073	.023	
3.0	.159	.085	.025	.154	.082	.025	.143	.078	.024	.134	.073	.022	.124	.069	.021	
4.0	.149	.078	.023	.144	.076	.022	.135	.072	.021	.127	.068	.021	.119	.065	.020	
5.0	.140	.071	.021	.136	.070	.020	.128	.067	.020	.120	.064	.019	.113	.061	.018	
6.0	.132	.066	.019	.128	.065	.019	.121	.062	.018	.114	.059	.017	.108	.057	.017	
7.0	.124	.062	.017	.121	.060	.017	.115	.058	.017	.109	.056	.016	.103	.054	.016	
8.0	.118	.058	.016	.115	.057	.016	.109	.055	.016	.104	.053	.015	.099	.051	.015	
9.0	.112	.054	.015	.109	.053	.015	.104	.051	.015	.099	.050	.014	.095	.048	.014	
10.0	.106	.051	.014	.104	.050	.014	.099	.049	.014	.095	.047	.013	.091	.046	.013	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.214	.214	.214	.183	.183	.183	.125	.125	.125	.072	.072	.072	.023	.023	.023	
1.0	.195	.181	.168	.167	.155	.145	.114	.107	.100	.066	.062	.058	.021	.020	.019	
2.0	.180	.156	.136	.154	.134	.118	.105	.093	.082	.061	.054	.048	.019	.017	.016	
3.0	.167	.137	.114	.143	.118	.099	.098	.082	.069	.057	.048	.041	.018	.016	.013	
4.0	.156	.123	.097	.134	.106	.084	.092	.074	.059	.053	.043	.035	.017	.014	.012	
5.0	.147	.111	.084	.126	.096	.073	.087	.067	.052	.050	.039	.031	.016	.013	.010	
6.0	.138	.101	.075	.119	.088	.065	.082	.062	.046	.048	.036	.027	.015	.012	.009	
7.0	.131	.094	.067	.113	.081	.059	.078	.057	.042	.045	.034	.025	.015	.011	.008	
8.0	.125	.087	.061	.108	.076	.054	.074	.053	.038	.043	.031	.023	.014	.010	.007	
9.0	.119	.082	.057	.103	.071	.049	.071	.050	.035	.041	.030	.021	.013	.010	.007	
10.0	.114	.077	.053	.099	.067	.046	.068	.047	.033	.040	.028	.020	.013	.009	.006	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-04-24

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

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	13.4	14.5	13.8	14.9	15.3	12.8	13.9	13.2	14.3	14.6
3H	14.5	15.4	14.9	15.8	16.3	13.8	14.8	14.3	15.2	15.6
4H	14.7	15.6	15.2	16.0	16.5	14.0	14.9	14.5	15.3	15.8
6H	14.8	15.6	15.3	16.0	16.5	14.1	14.9	14.6	15.3	15.8
8H	14.8	15.5	15.3	16.0	16.5	14.1	14.8	14.6	15.3	15.8
12H	14.8	15.5	15.2	15.9	16.4	14.0	14.8	14.5	15.2	15.7
4H 2H	13.7	14.6	14.2	15.0	15.5	13.1	14.0	13.6	14.4	14.9
3H	15.0	15.7	15.4	16.1	16.6	14.2	15.0	14.7	15.4	15.9
4H	15.3	15.9	15.8	16.4	16.9	14.5	15.2	15.0	15.6	16.2
6H	15.4	15.9	15.9	16.4	17.0	14.6	15.2	15.1	15.7	16.2
8H	15.4	15.9	15.9	16.4	16.9	14.6	15.1	15.1	15.6	16.2
12H	15.3	15.8	15.9	16.3	16.9	14.6	15.0	15.1	15.6	16.1
8H 4H	15.3	15.8	15.8	16.3	16.8	14.5	15.0	15.1	15.5	16.1
6H	15.4	15.8	16.0	16.4	16.9	14.7	15.1	15.2	15.6	16.2
8H	15.4	15.8	16.0	16.3	16.9	14.7	15.0	15.2	15.6	16.2
12H	15.4	15.7	16.0	16.3	16.9	14.7	15.0	15.2	15.5	16.2
12H 4H	15.2	15.7	15.8	16.2	16.8	14.5	14.9	15.0	15.5	16.0
6H	15.4	15.7	16.0	16.3	16.9	14.6	15.0	15.2	15.5	16.1
8H	15.4	15.7	16.0	16.3	16.9	14.7	15.0	15.2	15.5	16.2
CIE190: 2010										

CIE190: 2010
Area: 0.025 m2

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

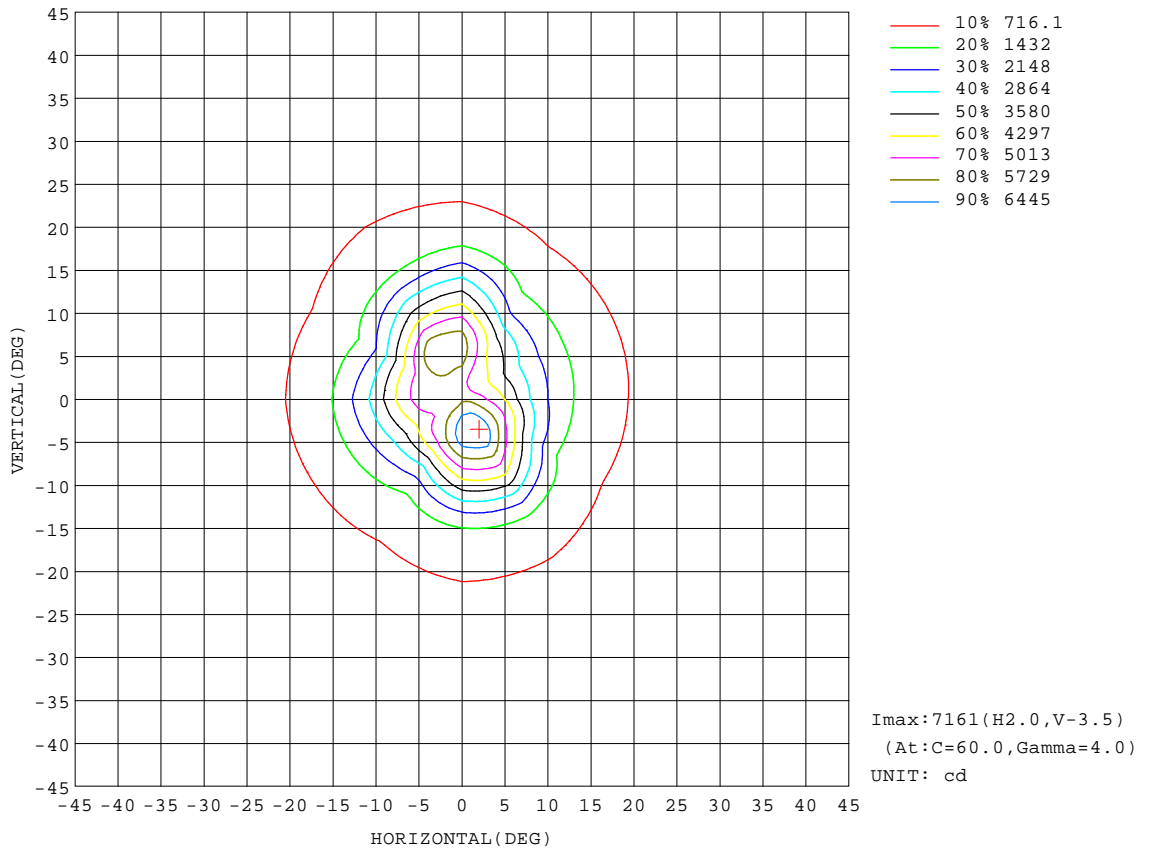
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	80	73	69	80	73	69	79	72	68	64
0.80	88	81	77	88	81	77	86	80	76	72
1.00	94	87	83	93	86	82	91	86	82	77
1.25	98	92	88	97	91	87	95	90	86	81
1.50	102	96	92	100	95	91	97	93	90	84
2.00	105	100	96	103	99	95	100	96	93	87
2.50	107	103	99	105	101	98	102	98	96	89
3.00	109	105	102	107	103	100	103	100	98	90
4.00	112	108	105	109	106	104	105	103	101	92
5.00	113	110	108	111	108	106	106	104	103	94
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		



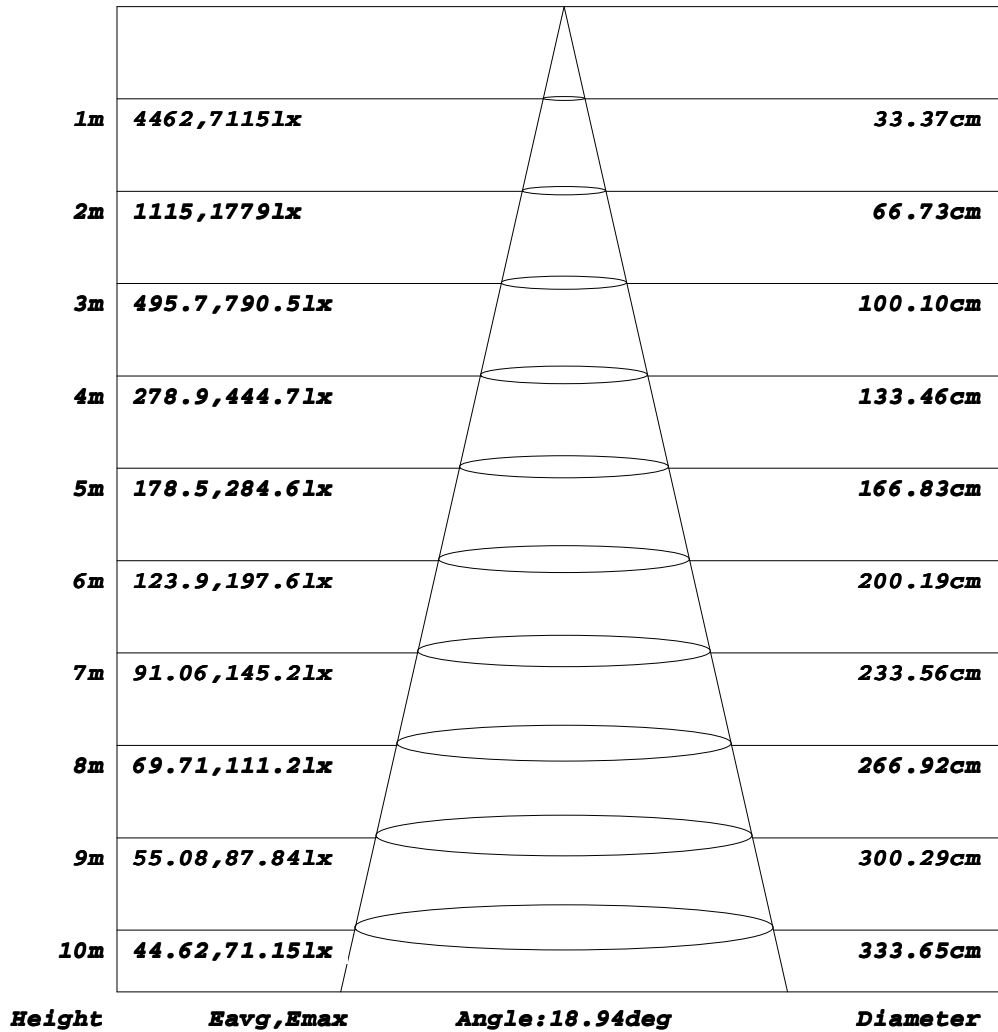
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

Flux out:435.8 lm



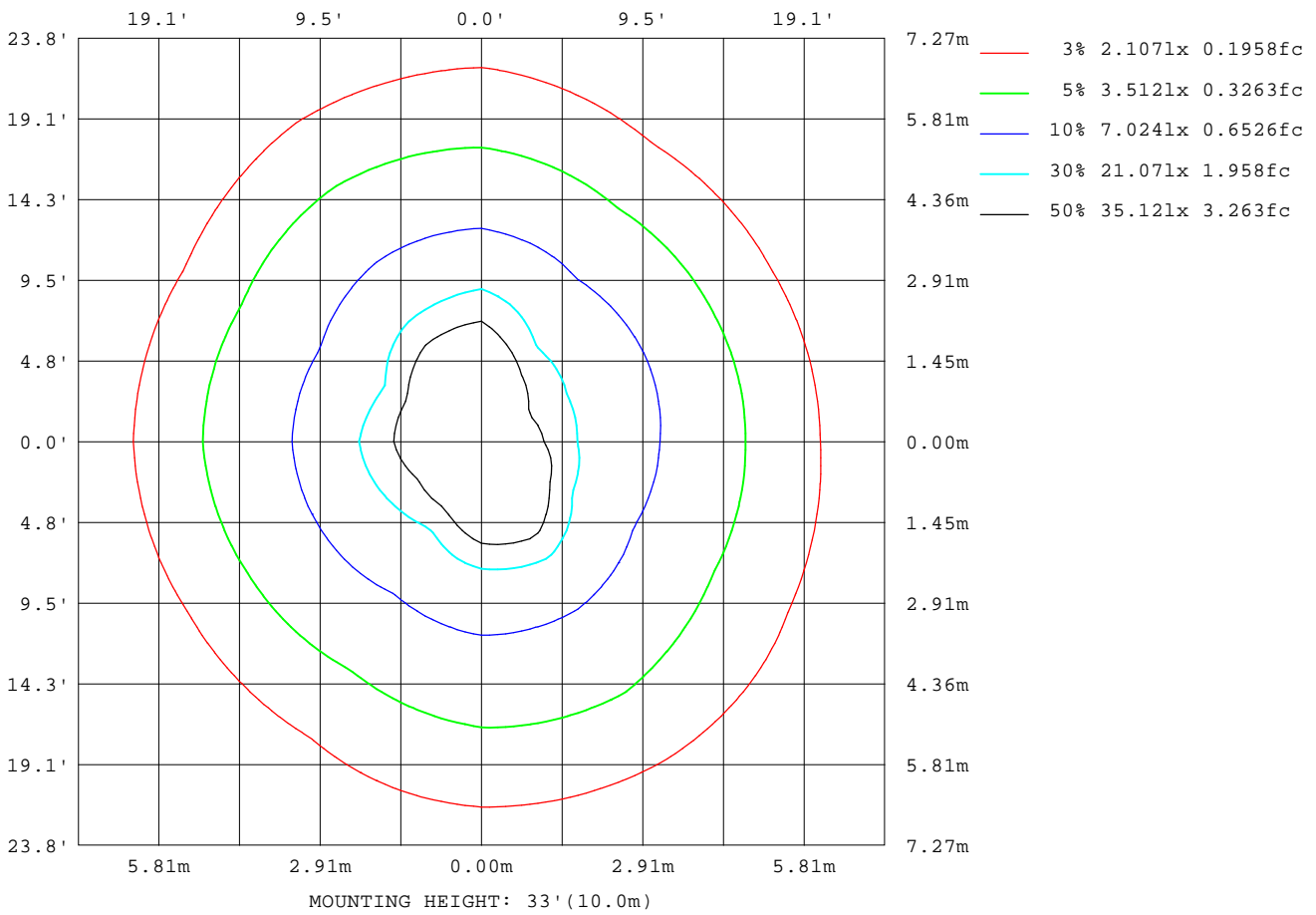
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

ISOLUX DIAGRAM

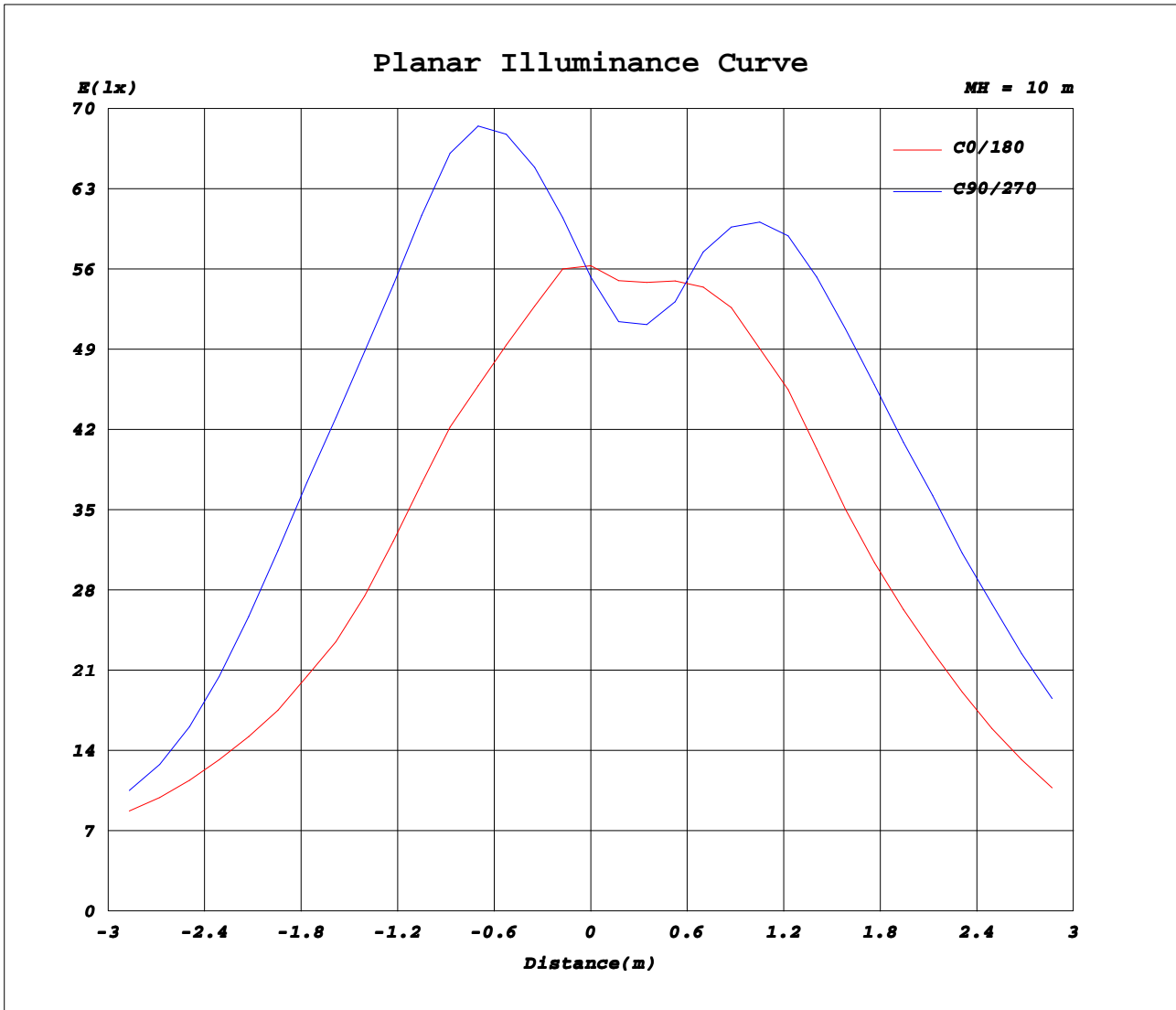
Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.000V I:1.4620A P:35.100W PF:1.0000 Freq:0Hz		
Lamp Flux:1561.16x1 lm		
NAME: UL316-40RW	TYPE: LED	
MFR.: UNMEI LEDS		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	5630	5597	5585	5531	5453	5372	5630	5597	5585	5531	5453	5372						
5	4270	5504	7028	6686	5349	4679	5325	5373	6293	6037	4426	3785						
10	2145	2492	4367	3916	2359	2627	3183	2905	4503	4807	2691	2203						
15	1100	1025	1612	1422	1041	1252	1465	1210	1962	2492	1272	1206						
20	680	660	778	782	667	697	745	727	895	974	735	706						
25	491	494	561	562	487	502	539	529	611	620	512	495						
30	366	385	460	446	371	375	407	393	447	451	380	363						
35	287	326	306	295	272	241	247	272	323	345	291	273						
40	213	205	157	155	152	159	157	172	171	174	186	190						
45	142	127	127	127	114	126	134	120	121	121	115	141						
50	108	101	98.6	94.7	92.0	92.3	101	101	103	101	100	106						
55	78.0	75.4	72.5	71.5	68.8	71.0	76.6	78.4	81.3	80.6	76.1	74.8						
60	57.6	56.1	55.6	53.9	51.3	52.4	58.4	60.6	61.8	59.7	56.8	55.1						
65	42.0	40.9	39.8	38.2	36.7	37.0	42.7	43.8	45.1	43.1	41.6	40.3						
70	27.2	26.5	25.2	24.2	23.1	23.8	28.0	29.1	29.6	28.8	27.7	27.3						
75	14.9	14.6	13.4	13.3	12.3	13.2	16.5	17.6	17.9	17.7	17.4	17.2						
80	6.23	6.05	5.67	5.49	5.35	6.11	8.65	8.82	9.42	9.39	9.86	10.1						
85	2.08	2.06	2.13	2.15	2.25	2.40	4.66	4.66	4.86	4.97	5.30	5.46						
90	1.56	1.59	1.59	1.51	1.45	1.45	4.09	4.03	4.02	3.98	3.98	3.88						
95	1.87	1.94	2.00	1.89	1.83	1.79	4.15	4.04	4.05	3.99	3.92	3.91						
100	2.41	2.56	2.79	2.51	2.31	2.23	4.22	4.23	4.23	4.16	4.10	4.02						
105	3.43	3.88	3.82	3.39	3.08	2.97	4.53	4.47	4.44	4.42	4.36	4.27						
110	5.13	5.17	4.60	4.31	4.10	4.34	5.03	4.93	4.91	4.87	4.76	4.74						
115	6.00	5.35	5.19	5.24	5.52	5.87	5.75	5.78	5.75	5.70	5.58	5.49						
120	5.95	5.67	5.72	6.13	6.27	6.11	6.95	6.78	6.66	6.69	6.67	6.56						
125	6.04	5.86	6.07	6.51	6.33	6.02	8.13	7.61	7.47	7.43	7.40	7.64						
130	6.43	6.67	6.99	7.18	6.99	6.52	8.72	8.72	8.62	8.42	8.22	8.31						
135	7.84	8.29	8.57	8.58	8.26	7.83	9.65	9.91	9.91	9.83	9.57	9.24						
140	10.3	10.4	10.5	10.5	10.1	9.91	11.5	11.3	11.3	11.3	11.1	11.0						
145	12.7	12.7	12.6	12.6	12.4	12.1	13.6	13.3	13.2	13.1	13.0	13.0						
150	14.6	14.8	14.5	14.6	14.3	14.1	15.5	15.2	15.1	14.9	14.9	14.8						
155	16.3	16.4	15.9	16.3	15.9	15.7	17.2	16.9	16.8	16.7	16.6	16.2						
160	17.4	17.1	16.2	16.9	16.6	17.0	18.6	17.9	17.7	17.9	17.5	16.9						
165	16.7	15.6	15.3	15.9	16.0	16.9	18.5	17.4	16.8	17.4	16.6	16.2						
170	14.1	13.3	13.6	14.4	14.5	14.9	15.8	15.6	15.1	15.1	14.4	14.2						
175	11.9	11.6	11.9	12.1	12.8	13.0	13.0	13.7	13.5	13.1	12.9	12.2						
180	11.6	12.1	12.2	12.2	12.1	11.8	11.7	12.0	12.3	12.2	12.1	11.8						

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2021-04-24

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks: