

Floodlight Summary:

Report based on lamp delivering 1000 lumens.

Maximum Intensity	435.1 cd per klm.
(Luminaire orientation as tested.)	0.0 degrees vertical
	0.5 degrees horizontal

Beam Spread	At 10% of Imax	137.9V x 148.1H
	At 50% of Imax	102.2V x 112.1H
	At 90% of Imax	51.4V x 52.4H

Beam Flux	Total	1115.8 lumens per klm.
	To 10% of Imax	1099.2 lumens per klm.
	To 50% of Imax	884.8 lumens per klm.
	To 90% of Imax	259.0 lumens per klm.

Upward LOR	0.0 %
Downward LOR	111.6 %

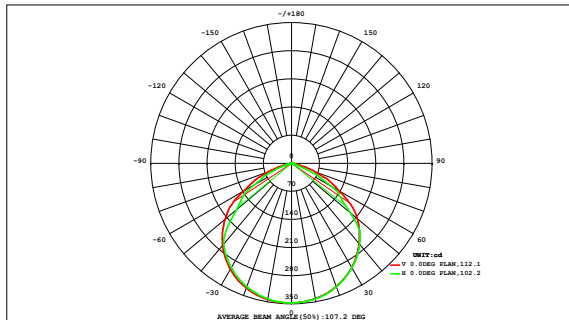
Luminaire Efficiency (Light Output Ratio)	111.6 %
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C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators:
Test Date: 11 July 2022

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity: 65.0%
Test Distance: 6.265m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding Angle:



DATA OF LAMP		PHOTOMETRIC DATA	
MODEL	98Helios10/ws	Imax (cd)	348.1
NOMINAL POWER (W)	10	AVAILABILITY (%)	109.8
RATED VOLTAGE (V)	230	Avai. FLUX (lm)	878.7
NOMINAL FLUX (lm)	800	LOR (%)	111.6
LAMPS INSIDE	1	TOTAL FLUX (lm)	892.6
TEST VOLTAGE (V)	230	θ @50% (H,V)	112,102DEG

VERTICAL (DEG)	AREA FLUX DIAGRAM															UNIT:lm			Φ t	Φ a	
	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.20	0.00	
90	0.00	0.00	0.02	0.07	0.15	0.24	0.32	0.40	0.42	0.42	0.39	0.31	0.23	0.15	0.07	0.02	0.01	0.00	3.24	0.00	
80	0.00	0.01	0.10	0.37	0.76	1.24	1.68	2.02	2.11	2.10	1.98	1.63	1.19	0.73	0.34	0.09	0.01	0.00	16.4	14.3	
70	0.00	0.04	0.30	0.93	1.81	2.81	3.60	4.19	4.48	4.48	4.18	3.59	2.79	1.75	0.90	0.27	0.03	0.00	36.1	35.5	
60	0.00	0.08	0.56	1.57	3.01	4.27	5.45	6.39	6.81	6.82	6.41	5.45	4.27	3.04	1.52	0.54	0.07	0.00	56.3	55.9	
50	0.00	0.14	0.83	2.20	3.96	5.51	6.93	7.95	8.50	8.53	8.01	7.01	5.56	3.99	2.20	0.80	0.12	0.00	72.2	72.0	
40	0.00	0.19	1.06	2.67	4.55	6.26	7.76	8.87	9.46	9.49	8.95	7.86	6.36	4.60	2.71	1.03	0.17	0.00	82.0	81.8	
30	0.01	0.24	1.23	2.97	4.92	6.73	8.32	9.48	10.1	10.1	9.57	8.43	6.85	5.00	3.02	1.20	0.22	0.00	88.4	88.2	
-30	0.01	0.26	1.31	3.12	5.11	6.98	8.61	9.79	10.4	10.5	9.88	8.73	7.11	5.20	3.17	1.28	0.24	0.00	91.7	91.5	
	0.01	0.26	1.31	3.12	5.11	6.98	8.61	9.79	10.4	10.4	9.89	8.74	7.11	5.20	3.18	1.29	0.24	0.00	91.7	91.5	
	0.00	0.23	1.24	2.98	4.93	6.74	8.33	9.48	10.1	10.1	9.58	8.46	6.87	5.00	3.04	1.21	0.21	0.00	88.6	88.4	
	0.00	0.19	1.08	2.68	4.56	6.27	7.77	8.86	9.46	9.49	8.94	7.88	6.38	4.63	2.74	1.05	0.17	0.00	82.1	81.9	
	0.00	0.13	0.83	2.23	3.98	5.56	6.95	7.96	8.52	8.54	8.03	7.04	5.64	4.05	2.27	0.80	0.11	0.00	72.7	72.4	
-40	0.00	0.07	0.54	1.63	3.04	4.37	5.68	6.62	7.09	7.11	6.66	5.72	4.41	3.11	1.61	0.51	0.06	0.00	58.2	57.8	
-50	0.00	0.03	0.25	0.90	1.81	2.82	3.64	4.30	4.61	4.61	4.31	3.65	2.85	1.80	0.86	0.22	0.02	0.00	36.7	36.1	
-60	0.00	0.01	0.07	0.27	0.62	0.99	1.41	1.83	1.99	1.98	1.82	1.40	0.97	0.58	0.25	0.06	0.01	0.00	14.3	11.3	
-70	0.00	0.00	0.01	0.04	0.08	0.13	0.16	0.21	0.23	0.23	0.20	0.16	0.12	0.08	0.04	0.01	0.00	0.00	1.71	0.00	
-80	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.12	0.00	
-90	-90	-80	-70	-60	-50	-40	-30	-20	HORIZONTAL (DEG)					20	30	40	50	60	70	80	90
Φ t	0.05	1.89	10.8	27.8	48.4	67.9	85.2	98.2	105	105	98.8	86.1	68.7	48.9	27.9	10.4	1.70	0.04	893	---	
Φ a	0.00	0.88	9.87	27.0	47.6	67.1	84.4	97.3	104	104	98.0	85.2	67.9	48.1	27.1	9.49	0.71	0.00	---	879	

one-half-peak spread: U:51.9,D:49.3 , L:56.4,R:56.1

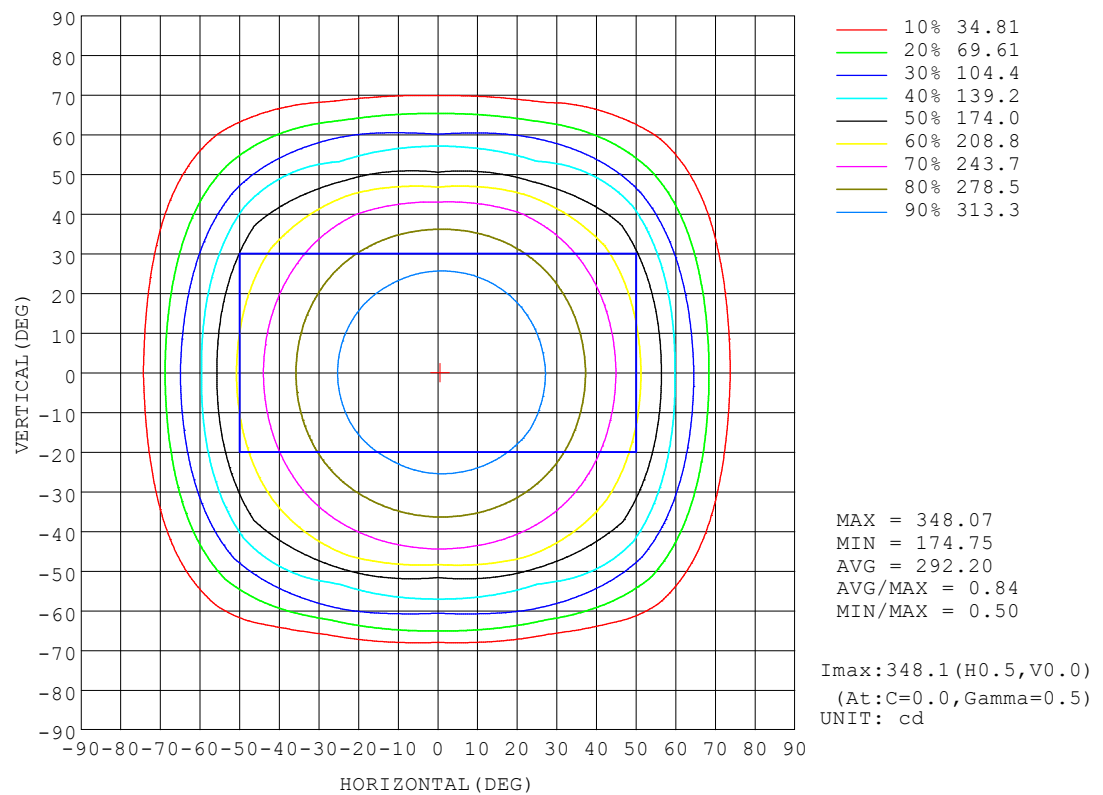
NEMA Beam Type: Type 7

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:11 July 2022

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding Angle:

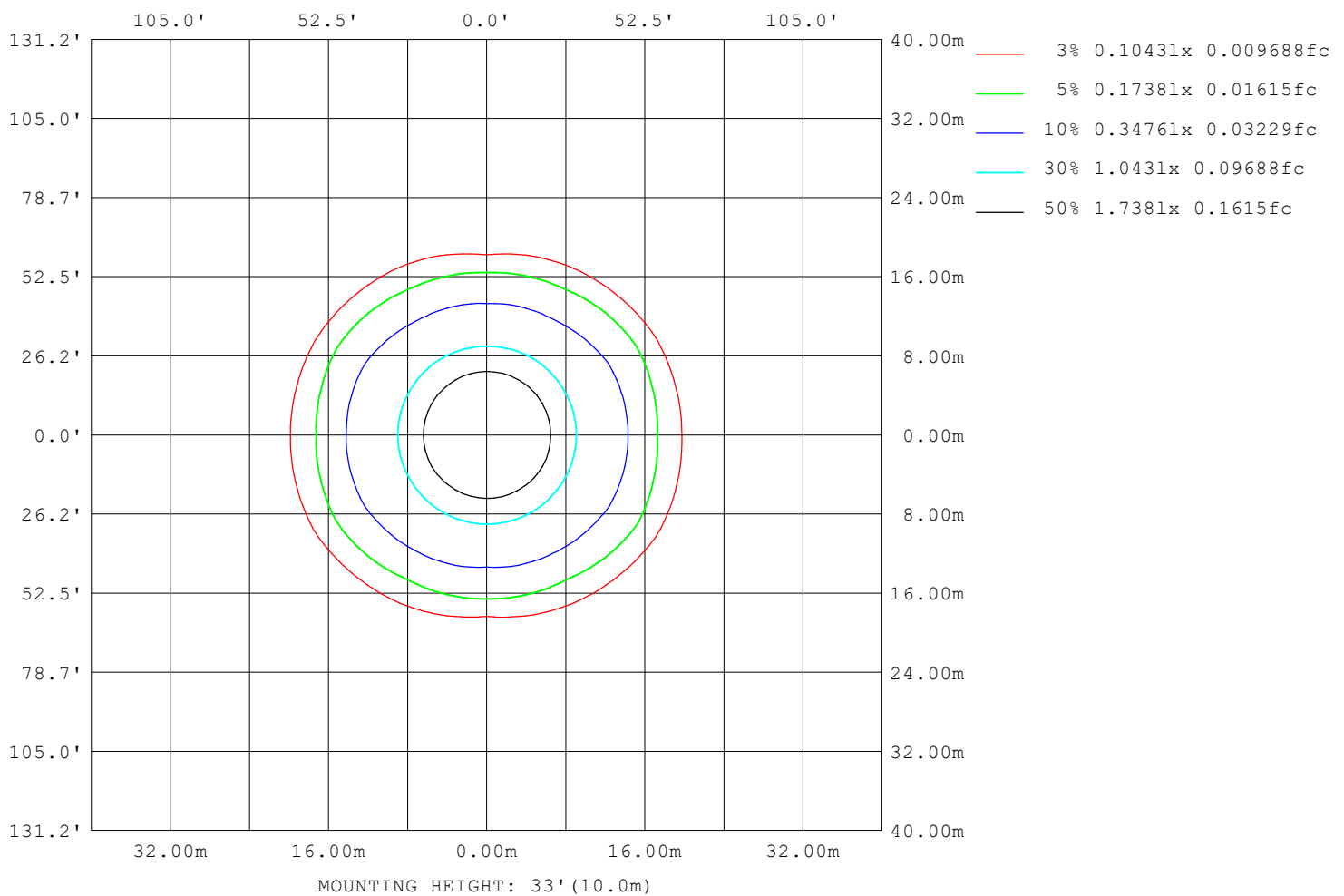


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 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity:65.0%
 Test Distance:6.265m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

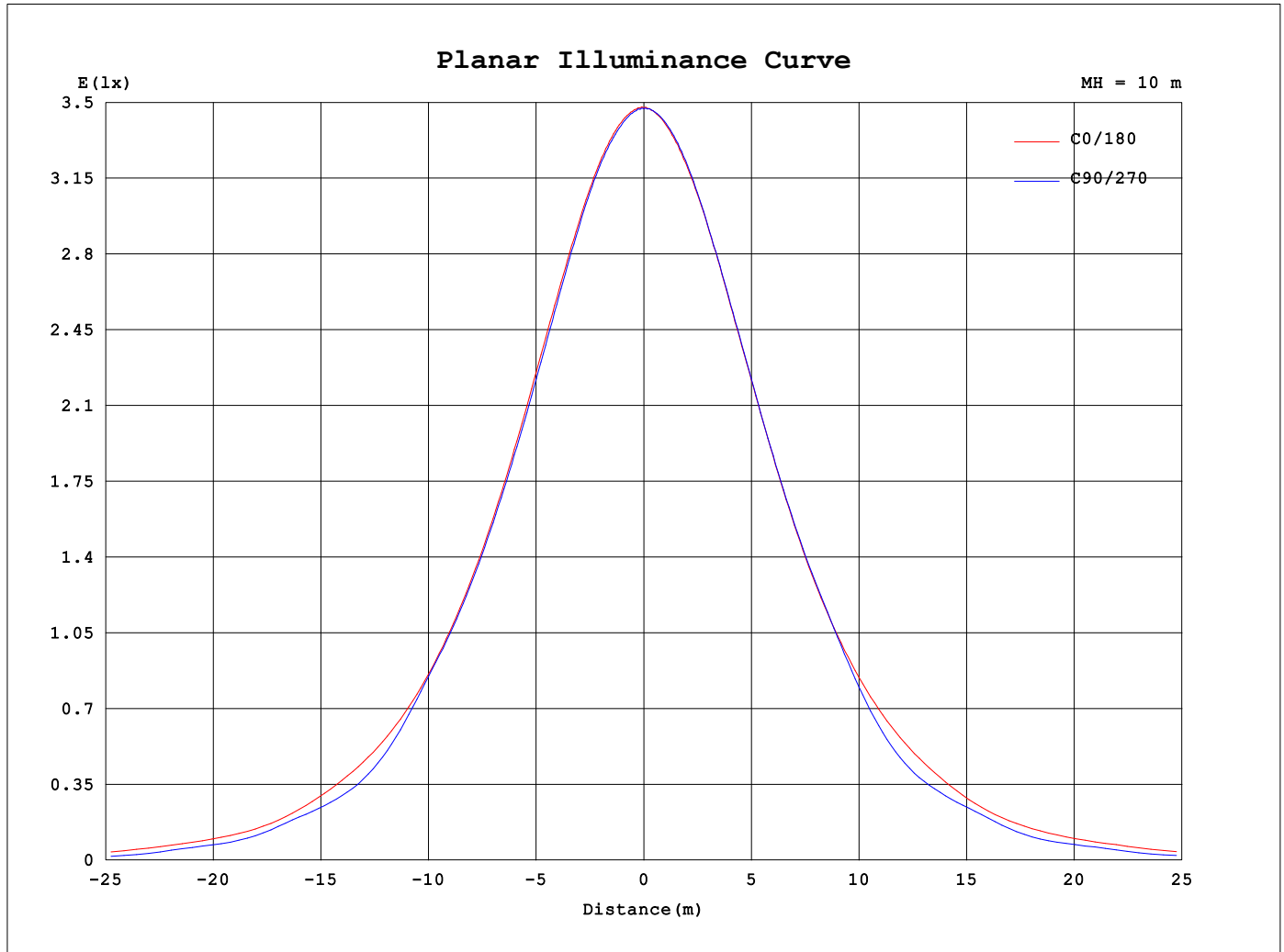
NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding Angle:



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Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity: 65.0%
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Remarks:

Planar Illuminance Curve

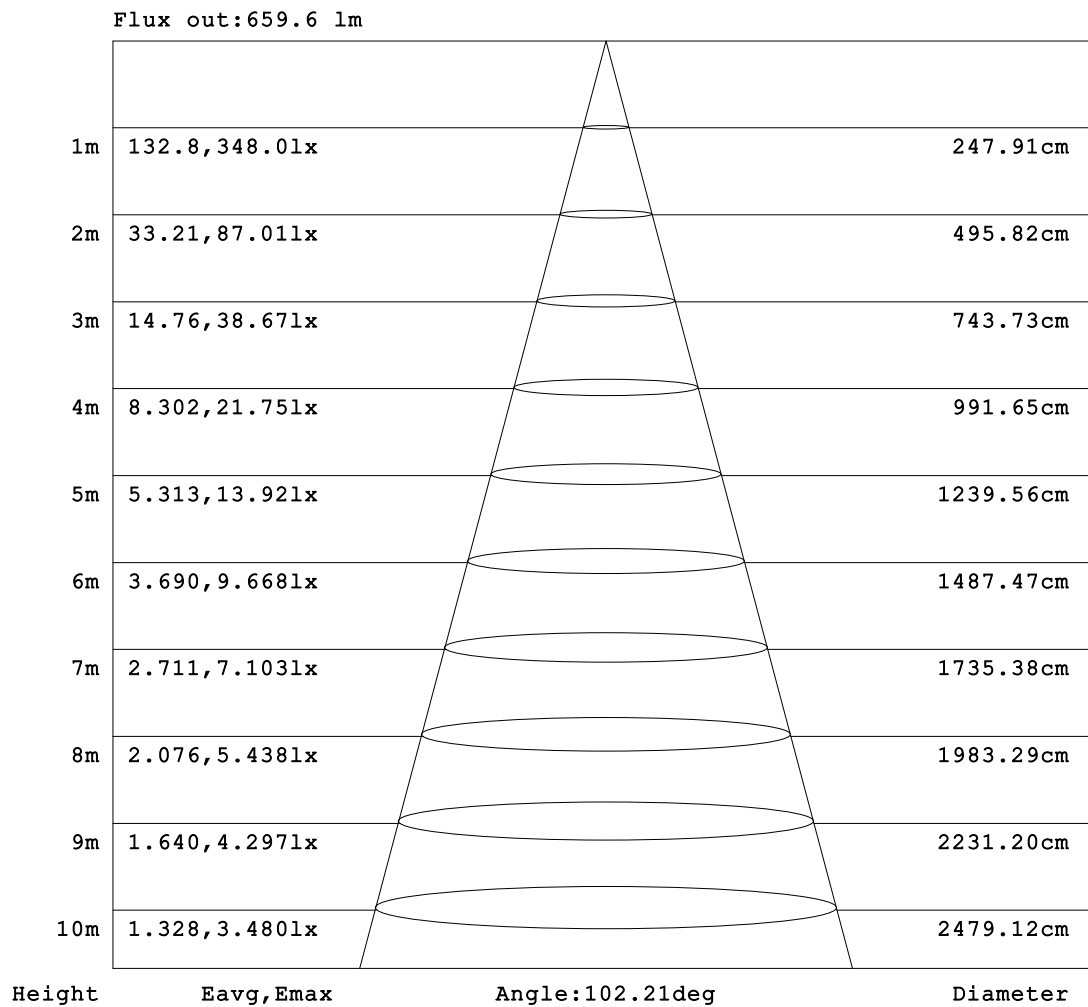


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 11 July 2022

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 6.265m [K=1.0000]
 Remarks:

AAI Figure

NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding 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: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 11 July 2022

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.456
 Humidity: 65.0%
 Test Distance: 6.265m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding Angle:

Table--1

UNIT: cd

H (DEG) V (DEG)	-90	-85	-80	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	-10	-5	0
-90	0.30	0.31	0.32	0.33	0.33	0.34	0.35	0.34	0.33	0.33	0.32	0.31	0.30	0.30	0.29	0.29	0.28	0.28	0.27
-85	0.30	0.30	0.31	0.31	0.32	0.33	0.31	0.30	0.29	0.29	0.28	0.27	0.26	0.26	0.26	0.25	0.25	0.25	0.25
-80	0.30	0.30	0.32	0.40	0.42	0.41	0.42	0.53	0.64	0.74	0.79	0.77	0.67	0.76	0.84	0.90	0.92	0.91	0.86
-75	0.30	0.29	0.43	0.52	0.57	0.81	1.37	2.03	2.68	3.29	3.73	4.01	4.13	4.74	5.36	5.82	6.11	6.16	5.98
-70	0.30	0.32	0.53	0.63	1.03	2.18	3.88	5.63	7.21	10.2	13.0	14.8	14.4	15.0	16.8	18.6	19.5	19.3	18.3
-65	0.30	0.38	0.64	0.89	2.30	4.93	8.09	13.4	21.2	28.2	31.0	35.3	42.6	51.6	57.4	62.9	68.0	70.6	71.0
-60	0.30	0.45	0.70	1.47	4.70	9.15	17.4	31.8	41.6	51.4	65.6	75.6	85.4	97.6	106	109	112	113	113
-55	0.30	0.50	0.78	2.74	7.87	16.7	33.7	50.6	67.7	84.3	99.7	117	126	130	138	145	149	151	150
-50	0.30	0.56	0.97	4.67	12.2	28.5	49.4	72.2	94.7	114	133	145	155	167	180	188	192	193	191
-45	0.30	0.62	1.25	6.21	18.5	40.3	63.9	93.4	119	142	160	175	193	210	221	228	234	239	240
-40	0.30	0.67	1.70	9.35	26.6	52.4	80.2	111	140	168	185	204	222	234	244	252	258	262	264
-35	0.30	0.72	2.35	11.8	34.1	61.5	96.5	126	161	187	206	224	240	253	263	272	278	282	284
-30	0.30	0.75	3.17	15.8	40.6	71.1	108	140	176	200	221	239	255	269	280	288	294	299	300
-25	0.30	0.78	4.02	19.1	47.7	80.3	117	153	187	212	233	252	268	283	294	302	308	313	314
-20	0.30	0.79	4.84	21.6	54.1	89.5	124	163	197	222	243	262	280	294	305	314	320	325	327
-15	0.30	0.79	5.44	24.1	58.0	96.9	130	171	204	229	251	271	289	303	314	323	330	335	337
-10	0.30	0.80	5.87	26.8	60.6	101	134	177	209	235	257	277	295	309	321	330	336	341	343
-5	0.30	0.81	6.15	28.6	62.4	103	136	180	212	238	260	280	298	313	325	334	340	344	346
0	0.30	0.81	6.30	29.6	63.2	104	136	181	213	239	261	282	300	314	326	335	342	346	348
5	0.30	0.81	6.22	28.8	62.5	103	136	180	212	238	260	280	298	313	325	334	340	345	346
10	0.30	0.81	6.00	27.2	60.8	100	134	176	209	234	257	277	294	309	321	330	337	341	343
15	0.30	0.81	5.64	24.9	58.2	95.5	129	171	204	229	251	271	288	302	314	323	330	334	336
20	0.30	0.80	5.09	22.7	54.4	87.9	123	163	197	221	243	262	279	294	305	314	321	325	326
25	0.30	0.80	4.31	20.8	48.3	78.9	115	153	187	212	233	251	268	282	294	302	309	313	315
30	0.30	0.77	3.47	17.6	42.1	70.6	105	140	175	200	220	239	255	268	279	288	295	299	300
35	0.30	0.73	2.66	13.2	36.2	62.0	92.8	124	160	186	204	222	239	252	263	271	277	281	283
40	0.30	0.68	1.99	10.4	28.7	53.0	77.7	107	140	167	182	198	216	232	244	251	257	261	263
45	0.30	0.62	1.51	7.04	21.7	42.8	64.1	88.2	115	142	159	170	184	199	212	220	225	227	226
50	0.30	0.56	1.18	5.52	15.5	31.7	50.3	70.6	89.6	112	133	145	151	159	169	177	181	181	179
55	0.30	0.50	0.93	3.48	9.55	21.3	37.9	51.6	68.8	82.2	97.5	116	127	131	138	143	147	150	150
60	0.30	0.44	0.79	2.01	6.01	12.6	22.3	36.9	45.8	58.1	70.4	77.2	85.6	96.9	105	108	109	108	106
65	0.30	0.37	0.68	1.24	3.32	6.69	12.4	20.0	26.4	35.6	40.8	48.0	59.1	63.3	64.8	67.5	70.8	73.0	73.3
70	0.30	0.31	0.54	0.79	1.62	3.50	6.03	8.76	13.3	16.8	18.7	20.7	25.0	29.3	29.8	30.7	32.5	33.7	33.2
75	0.30	0.28	0.42	0.56	0.79	1.43	2.59	3.75	4.85	5.89	7.43	8.81	9.76	10.9	11.9	12.7	13.2	13.6	13.6
80	0.30	0.29	0.30	0.38	0.43	0.52	0.73	1.03	1.32	1.59	1.82	2.00	2.10	2.40	2.70	2.93	3.07	3.10	3.05
85	0.30	0.29	0.29	0.28	0.28	0.28	0.26	0.27	0.29	0.30	0.30	0.29	0.27	0.28	0.30	0.31	0.31	0.31	0.31
90	0.30	0.30	0.30	0.29	0.29	0.29	0.29	0.28	0.27	0.27	0.26	0.26	0.25	0.25	0.24	0.24	0.23	0.23	0.23

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Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: 98Helios10/ws	TYPE: 98Helios10/ws	WEIGHT: 0.131
SPEC.:	DIM.: 0.105 x 0.065 x 0.046	SERIAL No.: 0
MFR.: Elmark Industries JSC	SUR.: rectangle 64x40	Shielding Angle:

Table--2

UNIT: cd

H (DEG) V (DEG)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	
-90	0.28	0.28	0.29	0.29	0.30	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.36	0.36	0.36	0.37	0.37	0.37	
-85	0.25	0.25	0.25	0.25	0.26	0.26	0.27	0.28	0.29	0.29	0.30	0.31	0.35	0.35	0.34	0.35	0.36	0.37	
-80	0.90	0.90	0.86	0.79	0.70	0.62	0.69	0.70	0.65	0.57	0.47	0.38	0.41	0.43	0.46	0.38	0.35	0.37	
-75	6.10	6.00	5.67	5.17	4.52	3.91	3.77	3.47	3.00	2.42	1.80	1.20	0.79	0.62	0.53	0.51	0.34	0.37	
-70	19.1	19.1	18.1	16.3	14.8	14.0	13.9	11.8	9.17	6.77	5.17	3.39	1.81	1.03	0.74	0.55	0.40	0.37	
-65	70.5	68.0	63.2	57.4	51.1	41.8	34.2	29.6	26.6	19.1	11.8	7.52	4.11	1.81	1.03	0.66	0.49	0.37	
-60	113	112	109	106	97.3	84.4	75.2	64.2	50.4	39.6	29.1	15.6	8.43	3.45	1.34	0.83	0.56	0.37	
-55	151	149	145	138	131	127	119	99.2	82.9	66.0	48.5	30.9	15.1	6.38	1.97	1.04	0.59	0.37	
-50	194	193	189	180	167	155	147	136	116	92.9	70.2	46.8	25.7	10.7	3.05	1.18	0.61	0.37	
-45	239	235	230	223	212	194	176	162	147	121	91.2	62.4	37.3	16.8	4.91	1.29	0.63	0.37	
-40	263	260	254	247	237	224	207	187	170	146	111	78.1	49.6	23.3	7.09	1.48	0.68	0.37	
-35	283	280	274	266	256	243	227	209	189	164	129	94.2	59.5	31.6	10.7	1.74	0.74	0.37	
-30	299	296	291	283	273	259	243	224	204	178	144	106	68.5	37.5	12.9	2.06	0.80	0.37	
-25	314	311	305	297	287	273	256	237	215	190	157	117	78.4	44.2	17.2	2.40	0.85	0.37	
-20	326	323	317	309	299	285	267	248	225	200	168	124	87.7	50.8	19.9	2.79	0.91	0.37	
-15	336	332	327	319	308	293	276	256	233	207	176	130	94.5	55.1	21.6	3.19	0.95	0.37	
-10	342	339	333	325	314	300	282	262	238	212	181	135	98.6	57.8	23.5	3.54	0.99	0.37	
-5	345	343	337	329	318	303	286	266	242	215	184	137	101	59.4	24.8	3.75	1.01	0.37	
0	347	344	339	330	319	305	287	267	243	216	185	137	102	60.2	25.5	3.83	1.03	0.37	
5	346	343	337	329	317	303	286	265	242	215	184	137	100	59.6	25.1	3.82	1.02	0.37	
10	342	339	333	325	313	299	282	262	238	211	180	134	97.3	58.2	24.0	3.68	1.00	0.37	
15	335	332	326	318	306	292	275	256	232	206	175	129	92.6	55.6	22.4	3.40	0.96	0.37	
20	326	323	317	309	297	283	267	247	224	198	167	122	85.7	51.5	21.2	3.06	0.92	0.37	
25	314	311	305	297	286	272	256	237	214	189	156	114	76.7	45.1	18.8	2.71	0.87	0.37	
30	299	296	291	283	272	258	242	223	202	177	142	102	67.9	38.8	14.4	2.39	0.81	0.37	
35	282	279	273	265	255	242	224	205	187	162	125	89.3	60.5	33.4	11.9	2.08	0.75	0.37	
40	262	259	253	246	234	217	199	182	168	143	104	75.0	51.0	25.7	8.22	1.80	0.69	0.37	
45	228	226	221	212	199	183	170	160	144	114	84.4	62.9	39.8	20.5	5.83	1.57	0.63	0.37	
50	181	180	176	168	158	152	146	135	110	85.6	68.4	48.9	29.0	13.3	3.97	1.41	0.61	0.37	
55	150	147	143	138	132	128	114	94.1	79.2	66.5	51.2	34.6	20.3	8.18	2.77	1.20	0.59	0.37	
60	108	109	107	103	93.6	82.6	75.4	68.6	56.0	45.0	33.6	21.3	11.4	4.88	1.94	0.93	0.55	0.37	
65	72.6	70.3	67.1	64.2	62.6	55.1	45.2	40.2	33.2	24.3	19.3	11.3	6.04	2.92	1.40	0.70	0.48	0.37	
70	33.2	31.8	30.1	29.6	29.0	22.8	19.3	17.9	16.4	11.9	8.51	5.72	3.24	1.68	0.91	0.55	0.39	0.37	
75	13.6	13.2	12.7	11.9	10.9	9.76	8.64	7.33	5.80	4.73	3.65	2.53	1.46	0.85	0.56	0.50	0.34	0.37	
80	3.11	3.07	2.93	2.70	2.40	2.08	1.97	1.79	1.56	1.29	0.99	0.70	0.51	0.43	0.44	0.37	0.34	0.37	
85	0.31	0.31	0.30	0.29	0.28	0.27	0.29	0.29	0.29	0.28	0.27	0.27	0.31	0.32	0.31	0.33	0.35	0.37	
90	0.23	0.24	0.24	0.25	0.25	0.26	0.26	0.27	0.27	0.28	0.29	0.29	0.31	0.32	0.33	0.34	0.36	0.37	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:
Test Date:11 July 2022

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.456
Humidity:65.0%
Test Distance:6.265m [K=1.0000]
Remarks: