

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: G3-1802-639-13

Luminaire Tested: **S121DR-S685D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: G3-1802-639-13
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S685D835-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2732.5 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.92' x H: 0.08')
CIE Type: Semi-Direct

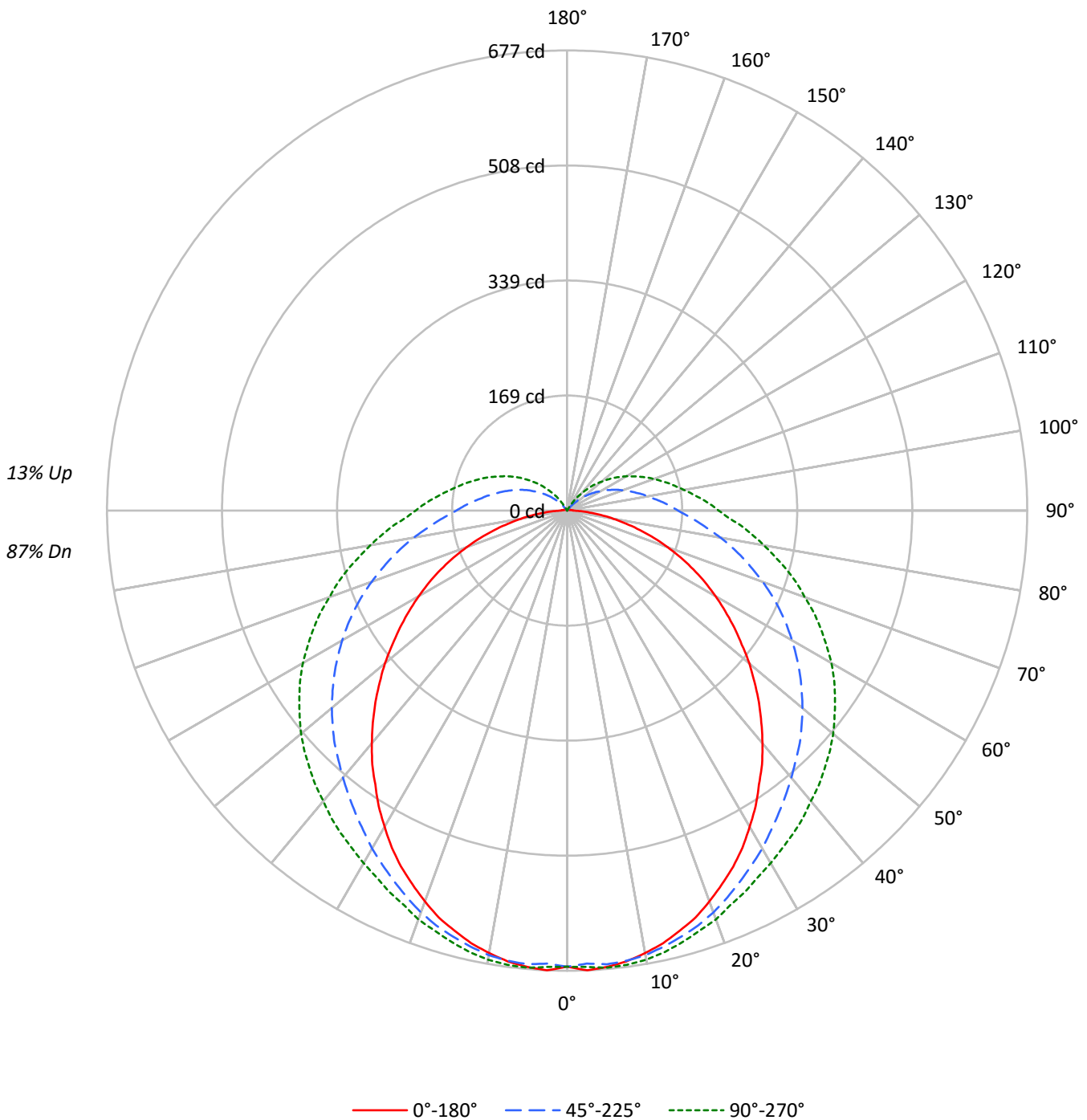
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: G3-1802-639-13

CATALOG NUMBER: S121DR-S685D835-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: G3-1802-639-13

CATALOG NUMBER: S121DR-S685D835-X4F0-XX-UDD-D-W

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	28	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19670	19670	19670
5°	19797	18665	18430
10°	19602	17751	17267
15°	19313	16799	16104
20°	18945	15898	15085
25°	18512	14977	14155
30°	17957	14166	13399
35°	17348	13396	12794
40°	16805	12747	12231
45°	16197	12208	11764
50°	15567	11666	11317
55°	14880	11132	10832
60°	14249	10591	10366
65°	13599	10054	9834
70°	12713	9475	9263
75°	11647	8890	8762
80°	10394	8314	8216
85°	8928	7769	7746



TEST NUMBER: G3-1802-639-13

CATALOG NUMBER: S121DR-S685D835-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.1	2.3
10°-20°	183.7	6.7
20°-30°	277.8	10.2
30°-40°	339.7	12.4
40°-50°	368.8	13.5
50°-60°	363.8	13.3
60°-70°	326.6	12.0
70°-80°	262.8	9.6
80°-90°	189.8	6.9
90°-100°	135.7	5.0
100°-110°	97.1	3.6
110°-120°	64.8	2.4
120°-130°	37.2	1.4
130°-140°	16.8	0.6
140°-150°	3.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	525.6	19.2
0°-40°	865.3	31.7
0°-60°	1598.0	58.5
0°-90°	2377.2	87.0
90°-120°	297.6	10.9
90°-150°	355.3	13.0
90°-180°	355.0	13.0
0°-180°	2732.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	671	671	671	671	671	
5°	674	673	670	676	675	64
15°	640	649	649	658	657	180
25°	578	593	602	616	619	266
35°	492	519	543	570	580	308
45°	399	435	484	523	536	308
55°	300	352	418	466	481	269
65°	205	270	345	396	412	203
75°	111	186	267	318	334	118
85°	33	112	193	242	257	35
90°	9	84	163	209	223	6
95°	7	67	141	186	198	5
105°	4	40	103	143	155	5
115°	3	20	72	107	118	3
125°	2	3	44	74	84	2
135°	1	1	17	42	50	1
145°	0	0	0	12	17	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: G3-1802-639-13

CATALOG NUMBER: S121DR-S685D835-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	671	671	671	671	671
2.5°	677	674	667	674	672
5°	674	673	670	676	675
7.5°	669	671	668	676	674
10°	661	666	664	672	671
12.5°	652	658	657	666	665
15°	640	649	649	658	657
17.5°	628	637	640	650	648
20°	612	624	629	638	640
22.5°	595	610	616	627	628
25°	578	593	602	616	619
27.5°	559	576	588	604	608
30°	537	558	574	592	599
32.5°	516	539	558	582	589
35°	492	519	543	570	580
37.5°	471	499	528	559	570
40°	447	477	513	547	558
42.5°	423	457	498	536	548
45°	399	435	484	523	536
47.5°	374	415	468	510	524
50°	350	394	452	496	511
52.5°	324	373	435	481	496
55°	300	352	418	466	481
57.5°	276	331	400	449	466
60°	252	310	382	432	449
62.5°	229	290	364	415	430
65°	205	270	345	396	412
67.5°	181	249	326	377	393
70°	157	227	306	358	372
72.5°	134	207	286	339	354
75°	111	186	267	318	334
77.5°	89	166	248	299	313
80°	69	146	229	280	294
82.5°	50	129	210	260	275
85°	33	112	193	242	257
87.5°	20	97	177	225	237
90°	9	84	163	209	223
92.5°	8	75	152	198	211
95°	7	67	141	186	198
97.5°	6	59	130	174	186
100°	5	52	121	163	175
102.5°	5	46	112	152	164
105°	4	40	103	143	155
107.5°	4	35	95	134	145
110°	4	30	87	125	136



TEST NUMBER: G3-1802-639-13

CATALOG NUMBER: S121DR-S685D835-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3	25	80	116	127
115°	3	20	72	107	118
117.5°	3	15	65	99	109
120°	2	11	57	91	101
122.5°	2	7	51	82	92
125°	2	3	44	74	84
127.5°	2	1	37	66	75
130°	1	1	31	58	66
132.5°	1	1	24	50	59
135°	1	1	17	42	50
137.5°	1	0	11	34	41
140°	1	0	6	27	33
142.5°	1	0	1	19	26
145°	0	0	0	12	17
147.5°	0	0	0	5	10
150°	0	0	0	0	3
152.5°	0	0	0	0	0
155°	0	0	0	0	0
157.5°	0	0	0	0	0
160°	0	0	0	0	0
162.5°	0	0	0	0	0
165°	0	0	0	0	0
167.5°	0	0	0	0	0
170°	0	0	0	0	0
172.5°	0	0	0	0	0
175°	0	0	0	0	0
177.5°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)