

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: P242085

Luminaire Tested: **S121DR-S685D830-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242085  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121DR-S685D830-X4F0-XX-UDD-F-W  
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2592.3 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')  
CIE Type: Direct

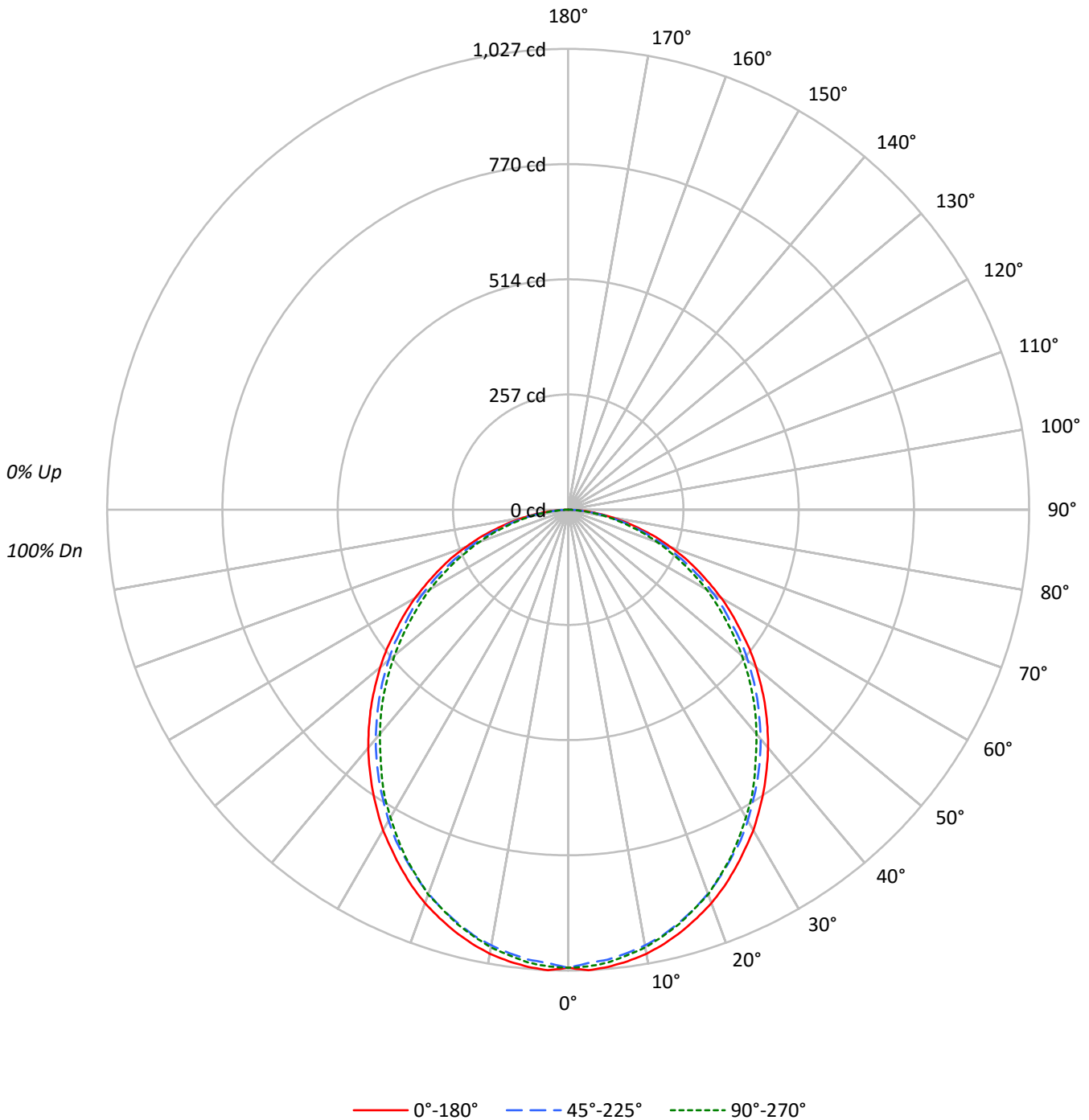
Input Watts (W): 26.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P242085

CATALOG NUMBER: S121DR-S685D830-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242085

CATALOG NUMBER: S121DR-S685D830-X4F0-XX-UDD-F-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	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	75		80	76	73	71
3	91	80	72	66	88	79	71	66	76	70	64		73	68	63		71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	49	42	55	48	42		53	47	42		52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34		45	38	33		44	38	33	31
9	57	44	36	31	56	44	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28		38	32	27		37	32	27	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	30246	30246	30246
5°	30418	29939	30135
10°	30231	29663	29804
15°	29865	29230	29316
20°	29422	28709	28769
25°	28812	28041	27978
30°	28216	27378	27087
35°	27512	26593	26184
40°	26797	25810	25226
45°	26026	24961	24329
50°	25200	24071	23288
55°	24197	22983	22156
60°	23348	22116	21114
65°	22204	20753	19694
70°	20904	19353	18288
75°	19210	17584	16405
80°	17046	15442	14316
85°	14108	11525	10267



TEST NUMBER: P242085

CATALOG NUMBER: S121DR-S685D830-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.1	3.7
10°-20°	270.7	10.4
20°-30°	398.1	15.4
30°-40°	462.2	17.8
40°-50°	461.2	17.8
50°-60°	401.3	15.5
60°-70°	295.6	11.4
70°-80°	164.6	6.4
80°-90°	42.5	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	764.9	29.5
0°-40°	1227.1	47.3
0°-60°	2089.6	80.6
0°-90°	2592.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2592.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1021	1021	1021	1021	1021	
5°	1023	1018	1007	1015	1013	97
15°	974	966	953	960	956	274
25°	881	872	858	860	856	406
35°	761	751	735	728	724	476
45°	621	611	596	584	581	479
55°	468	463	445	436	429	420
65°	317	310	296	286	281	314
75°	168	163	154	147	143	179
85°	42	40	34	32	30	49
90°	0	0	0	0	0	



TEST NUMBER: P242085

CATALOG NUMBER: S121DR-S685D830-X4F0-XX-UDD-F-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1020.8	1020.8	1020.8	1020.8	1020.8
2.5°	1027.4	1021.7	1011.3	1019.8	1018.9
5°	1022.7	1017.9	1006.6	1015.1	1013.2
7.5°	1015.1	1009.5	997.2	1004.8	1001.9
10°	1004.8	999.1	985.9	991.6	990.6
12.5°	990.6	984.0	971.8	976.5	973.6
15°	973.6	966.1	952.9	959.5	955.7
17.5°	953.9	945.4	933.1	936.9	933.1
20°	933.1	923.7	910.5	914.3	912.4
22.5°	908.6	900.1	885.0	886.9	883.2
25°	881.3	871.9	857.7	859.6	855.8
27.5°	853.0	844.5	831.3	828.5	823.8
30°	824.7	814.4	800.2	796.4	791.7
32.5°	792.7	783.3	767.2	763.5	760.6
35°	760.6	751.2	735.2	727.6	723.9
37.5°	726.7	717.3	701.3	692.8	687.1
40°	692.8	682.4	667.3	658.8	652.2
42.5°	657.0	647.5	630.6	622.1	617.4
45°	621.1	610.8	595.7	584.4	580.6
47.5°	583.4	574.0	558.9	546.7	542.9
50°	546.7	536.3	522.2	509.9	505.2
52.5°	509.0	499.5	486.4	474.1	466.6
55°	468.4	462.8	444.9	436.4	428.9
57.5°	431.7	425.1	410.9	396.8	392.1
60°	394.0	386.4	373.2	361.0	356.3
62.5°	354.4	348.7	335.5	324.2	317.6
65°	316.7	310.1	296.0	286.5	280.9
67.5°	281.8	273.3	259.2	249.8	245.1
70°	241.3	234.7	223.4	215.8	211.1
72.5°	206.4	198.9	188.5	181.0	176.3
75°	167.8	163.1	153.6	147.0	143.3
77.5°	133.8	127.2	120.6	115.9	113.1
80°	99.9	95.2	90.5	85.8	83.9
82.5°	69.7	66.0	61.3	58.4	55.6
85°	41.5	39.6	33.9	32.0	30.2
87.5°	19.8	17.0	11.3	10.4	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)