

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242260

Luminaire Tested: S122DRP-S290D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242260  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S290D835-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

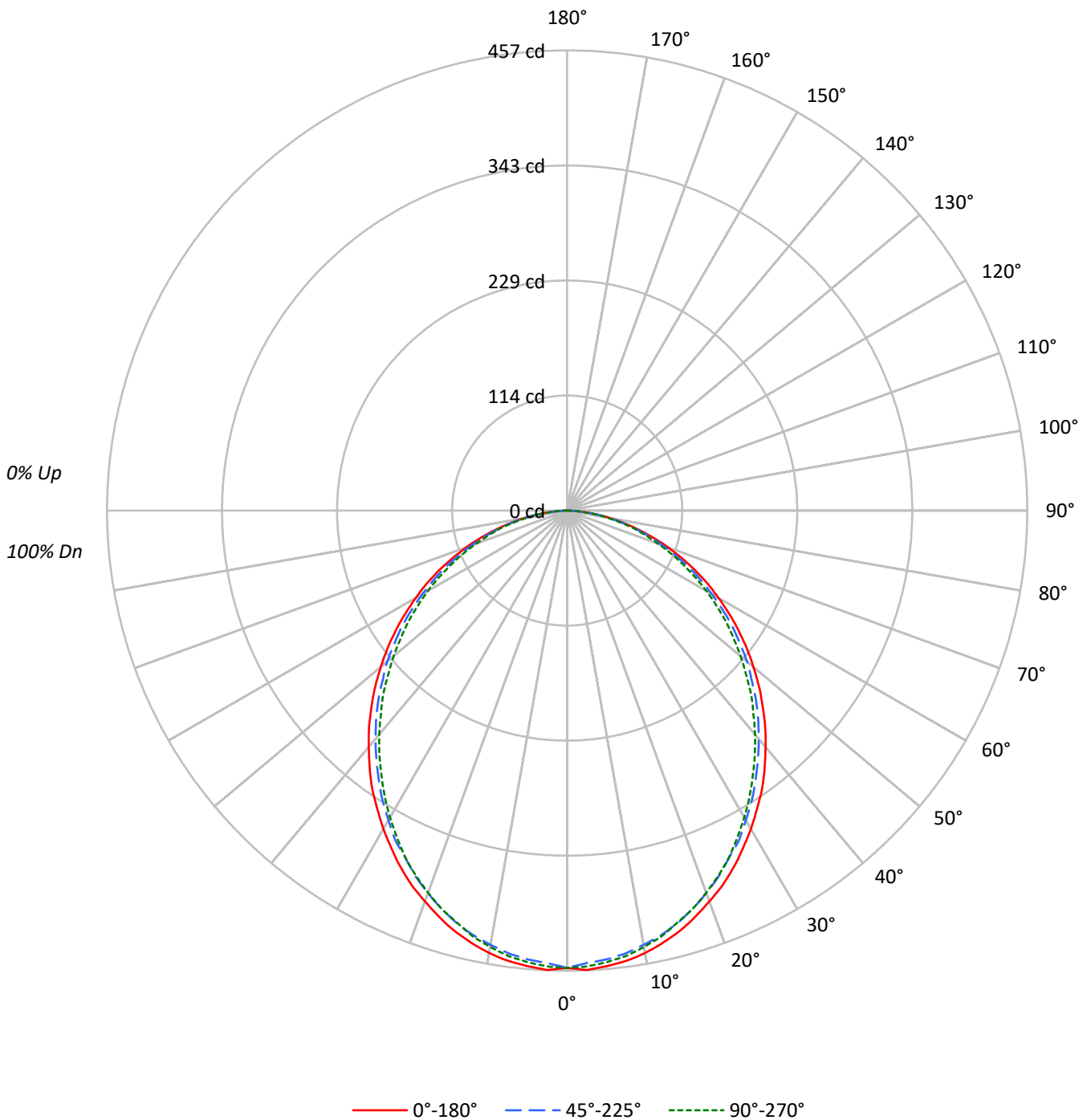
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1155.3 lumens  
Efficiency: N/A  
Efficacy: 99.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (Ain): 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: 24 FT

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### Luminous Intensity Polar Plot



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**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	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					100			
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84					84			
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71					71			
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60					60			
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51					51			
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39					39			
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35					35			
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31					31			
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28					28			
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26					26			

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

	0°	45°	90°
0°	8650	8650	8650
5°	8683	8556	8608
10°	8630	8470	8512
15°	8525	8361	8351
20°	8372	8195	8187
25°	8222	7993	7993
30°	8028	7808	7740
35°	7848	7585	7474
40°	7621	7360	7221
45°	7397	7138	6963
50°	7156	6910	6664
55°	6901	6642	6396
60°	6621	6320	6088
65°	6319	6003	5728
70°	5931	5619	5352
75°	5402	5174	5041
80°	4794	4651	4410
85°	3912	3715	3344

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7397 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.7	3.7
10°-20°	120.2	10.4
20°-30°	176.7	15.3
30°-40°	205.2	17.8
40°-50°	205.0	17.7
50°-60°	178.7	15.5
60°-70°	132.1	11.4
70°-80°	74.8	6.5
80°-90°	19.7	1.7
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°	339.7	29.4
0°-40°	544.9	47.2
0°-60°	928.6	80.4
0°-90°	1155.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1155.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	454	454	454	454	454	
5°	454	452	448	451	450	43
15°	432	430	424	426	424	122
25°	391	388	380	381	380	180
35°	338	333	326	324	321	211
45°	275	272	265	260	258	212
55°	208	205	200	195	193	186
65°	140	138	133	129	127	139
75°	73	72	70	68	68	78
85°	18	18	17	16	15	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	454.1	454.1	454.1	454.1	454.1
2.5°	456.7	454.5	449.7	454.1	453.2
5°	454.1	452.3	447.5	451.0	450.2
7.5°	451.0	448.4	443.6	447.1	446.2
10°	446.2	443.2	437.9	441.4	440.1
12.5°	439.7	437.1	431.8	434.0	433.1
15°	432.3	429.6	424.0	425.7	423.5
17.5°	423.1	420.5	414.8	417.0	414.8
20°	413.0	410.4	404.3	405.6	403.9
22.5°	403.0	399.1	393.4	393.4	392.5
25°	391.2	387.7	380.3	381.2	380.3
27.5°	378.1	375.1	369.4	368.1	365.9
30°	365.0	361.5	355.0	353.7	351.9
32.5°	351.0	348.4	341.4	338.8	337.1
35°	337.5	333.1	326.2	323.5	321.4
37.5°	322.2	318.3	311.3	308.3	306.1
40°	306.5	303.0	296.0	292.1	290.4
42.5°	291.2	287.7	280.7	276.4	273.8
45°	274.6	271.6	265.0	260.2	258.5
47.5°	258.5	255.4	248.4	243.6	241.0
50°	241.5	239.3	233.2	227.0	224.9
52.5°	224.9	221.8	216.1	211.3	208.3
55°	207.8	205.2	200.0	194.7	192.6
57.5°	190.8	188.6	182.9	177.7	176.0
60°	173.8	172.0	165.9	161.1	159.8
62.5°	157.2	154.1	149.8	145.4	143.6
65°	140.2	137.5	133.2	129.2	127.1
67.5°	122.7	120.5	116.6	113.5	111.8
70°	106.5	104.8	100.9	97.8	96.1
72.5°	89.9	88.2	86.0	83.0	81.6
75°	73.4	72.5	70.3	67.7	68.5
77.5°	58.5	56.8	55.9	54.6	53.3
80°	43.7	43.2	42.4	41.0	40.2
82.5°	29.7	29.7	29.3	27.5	27.5
85°	17.9	17.5	17.0	15.7	15.3
87.5°	7.9	7.0	6.1	4.8	4.4
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	18.78	20.39	19.14	20.70	21.02	18.33	19.95	18.70	20.26	20.57
	3H	20.53	21.98	20.90	22.31	22.67	20.04	21.49	20.41	21.82	22.18
	4H	21.17	22.54	21.57	22.89	23.27	20.68	22.05	21.08	22.40	22.77
	6H	21.64	22.91	22.05	23.28	23.67	21.14	22.41	21.55	22.78	23.17
	8H	21.79	23.00	22.21	23.39	23.79	21.28	22.49	21.71	22.88	23.28
	12H	21.88	23.04	22.31	23.42	23.85	21.37	22.53	21.79	22.91	23.34
4H	2H	19.34	20.71	19.74	21.06	21.43	18.99	20.36	19.38	20.70	21.08
	3H	21.31	22.46	21.72	22.86	23.26	20.91	22.05	21.32	22.45	22.85
	4H	22.09	23.13	22.52	23.54	23.98	21.67	22.70	22.10	23.12	23.55
	6H	22.69	23.59	23.14	24.03	24.49	22.26	23.16	22.71	23.60	24.06
	8H	22.88	23.72	23.34	24.17	24.63	22.44	23.29	22.90	23.73	24.19
	12H	23.01	23.77	23.49	24.24	24.71	22.56	23.32	23.04	23.79	24.26
8H	4H	22.36	23.21	22.82	23.65	24.12	21.99	22.84	22.45	23.28	23.74
	6H	23.08	23.78	23.57	24.27	24.75	22.70	23.40	23.19	23.89	24.36
	8H	23.34	23.97	23.85	24.48	24.96	22.95	23.58	23.46	24.08	24.57
	12H	23.54	24.10	24.05	24.59	25.15	23.12	23.68	23.63	24.17	24.73
12H	4H	22.39	23.15	22.87	23.63	24.10	22.03	22.79	22.51	23.26	23.73
	6H	23.12	23.76	23.63	24.26	24.75	22.76	23.39	23.27	23.89	24.38
	8H	23.44	24.00	23.94	24.49	25.05	23.06	23.62	23.57	24.11	24.67