

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: P242150

Luminaire Tested: **S121DR-S880D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242150
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S880D927-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2760.5 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

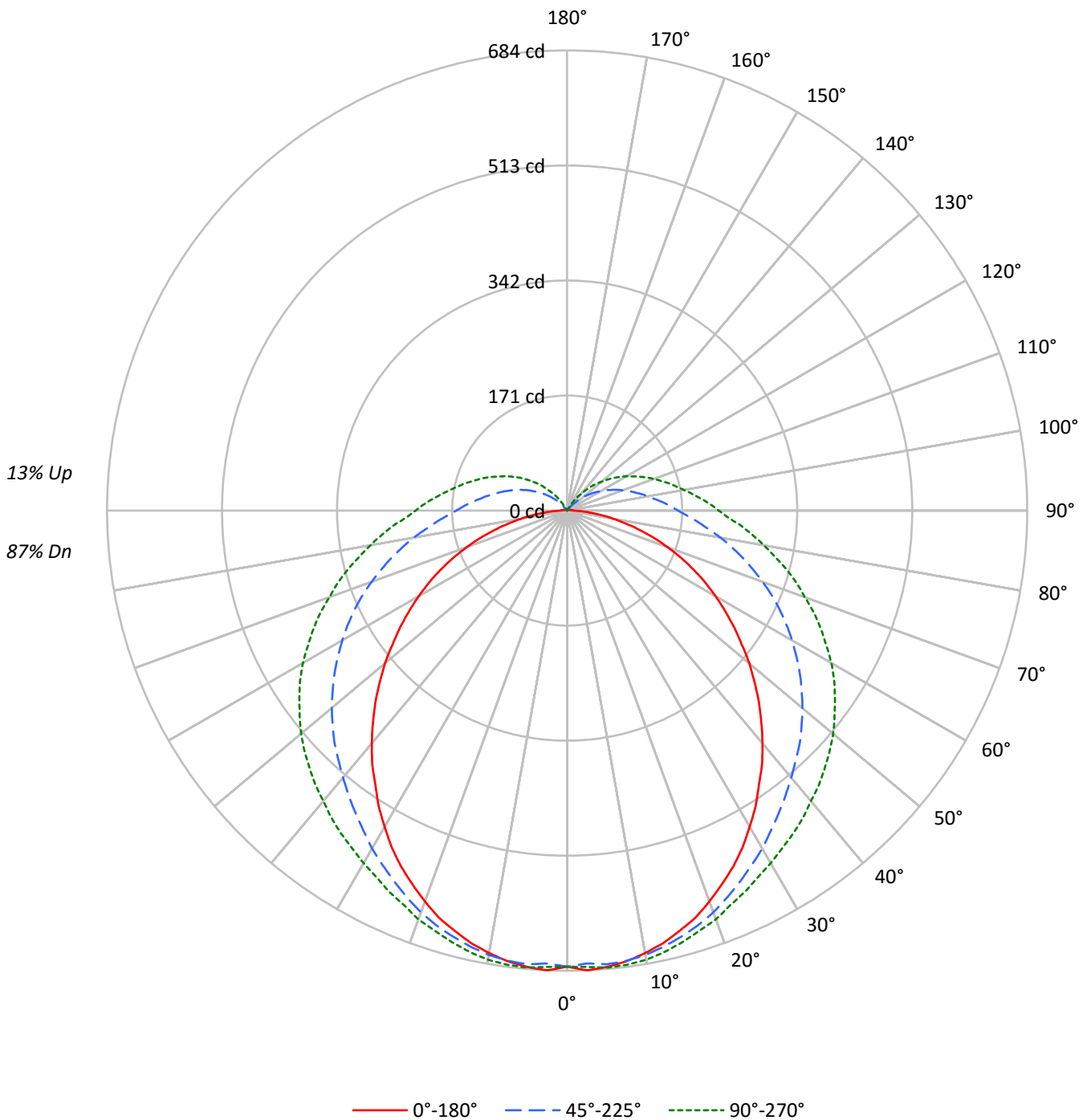
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	20086	20086	20086
5°	20214	19060	18818
10°	20016	18125	17632
15°	19718	17152	16443
20°	19344	16232	15402
25°	18900	15293	14453
30°	18333	14465	13681
35°	17710	13678	13063
40°	17158	13014	12489
45°	16535	12463	12013
50°	15892	11910	11555
55°	15191	11366	11060
60°	14546	10813	10585
65°	13880	10264	10041
70°	12973	9672	9458
75°	11880	9075	8947
80°	10600	8486	8389
85°	9087	7932	7908



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.7	2.3
10°-20°	185.6	6.7
20°-30°	280.7	10.2
30°-40°	343.2	12.4
40°-50°	372.6	13.5
50°-60°	367.6	13.3
60°-70°	329.9	12.0
70°-80°	265.5	9.6
80°-90°	191.8	6.9
90°-100°	137.1	5.0
100°-110°	98.1	3.6
110°-120°	65.5	2.4
120°-130°	37.6	1.4
130°-140°	17.0	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°	531.0	19.2
0°-40°	874.2	31.7
0°-60°	1614.3	58.5
0°-90°	2401.5	87.0
90°-120°	300.7	10.9
90°-150°	359.0	13.0
90°-180°	359.0	13.0
0°-180°	2760.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	678	678	678	678	678	
5°	681	680	677	683	682	65
15°	646	656	656	665	664	182
25°	584	599	608	622	625	269
35°	497	524	549	576	586	312
45°	403	439	489	528	542	311
55°	303	356	422	471	486	271
65°	207	273	348	400	416	205
75°	112	188	270	321	337	119
85°	33	113	195	244	260	35
90°	9	85	165	211	225	6
95°	7	68	142	188	200	5
105°	4	40	104	144	157	5
115°	3	20	73	108	119	3
125°	2	3	44	75	85	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



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	677.9	677.9	677.9	677.9	677.9
2.5°	683.9	680.9	673.8	680.9	678.9
5°	680.9	679.9	676.9	682.9	681.9
7.5°	675.8	677.9	674.8	682.9	680.9
10°	667.8	672.8	670.8	678.9	677.9
12.5°	658.7	664.7	663.7	672.8	671.8
15°	646.5	655.6	655.6	664.7	663.7
17.5°	634.4	643.5	646.5	656.6	654.6
20°	618.3	630.4	635.4	644.5	646.5
22.5°	601.1	616.2	622.3	633.4	634.4
25°	583.9	599.1	608.2	622.3	625.3
27.5°	564.7	581.9	594.0	610.2	614.2
30°	542.5	563.7	579.9	598.1	605.1
32.5°	521.3	544.5	563.7	588.0	595.0
35°	497.0	524.3	548.6	575.8	585.9
37.5°	475.8	504.1	533.4	564.7	575.8
40°	451.6	481.9	518.2	552.6	563.7
42.5°	427.3	461.7	503.1	541.5	553.6
45°	403.1	439.4	488.9	528.3	541.5
47.5°	377.8	419.2	472.8	515.2	529.4
50°	353.6	398.0	456.6	501.1	516.2
52.5°	327.3	376.8	439.4	485.9	501.1
55°	303.1	355.6	422.3	470.8	485.9
57.5°	278.8	334.4	404.1	453.6	470.8
60°	254.6	313.2	385.9	436.4	453.6
62.5°	231.3	293.0	367.7	419.2	434.4
65°	207.1	272.8	348.5	400.0	416.2
67.5°	182.9	251.5	329.3	380.9	397.0
70°	158.6	229.3	309.1	361.7	375.8
72.5°	135.4	209.1	288.9	342.5	357.6
75°	112.1	187.9	269.7	321.3	337.4
77.5°	89.9	167.7	250.5	302.1	316.2
80°	69.7	147.5	231.3	282.9	297.0
82.5°	50.5	130.3	212.1	262.7	277.8
85°	33.3	113.1	195.0	244.5	259.6
87.5°	20.2	98.0	178.8	227.3	239.4
90°	9.1	84.9	164.7	211.1	225.3
92.5°	8.1	75.8	153.6	200.0	213.2
95°	7.1	67.7	142.4	187.9	200.0
97.5°	6.1	59.6	131.3	175.8	187.9
100°	5.1	52.5	122.2	164.7	176.8
102.5°	5.1	46.5	113.1	153.6	165.7
105°	4.0	40.4	104.1	144.5	156.6
107.5°	4.0	35.4	96.0	135.4	146.5
110°	4.0	30.3	87.9	126.3	137.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.0	25.3	80.8	117.2	128.3
115°	3.0	20.2	72.7	108.1	119.2
117.5°	3.0	15.2	65.7	100.0	110.1
120°	2.0	11.1	57.6	91.9	102.0
122.5°	2.0	7.1	51.5	82.8	92.9
125°	2.0	3.0	44.4	74.8	84.9
127.5°	2.0	1.0	37.4	66.7	75.8
130°	1.0	1.0	31.3	58.6	66.7
132.5°	1.0	1.0	24.2	50.5	59.6
135°	1.0	1.0	17.2	42.4	50.5
137.5°	1.0	0.0	11.1	34.3	41.4
140°	1.0	0.0	6.1	27.3	33.3
142.5°	1.0	0.0	1.0	19.2	26.3
145°	0.0	0.0	0.0	12.1	17.2
147.5°	0.0	0.0	0.0	5.1	10.1
150°	0.0	0.0	0.0	0.0	3.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)