

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: P243039

Luminaire Tested: **S121DR-H880D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243039
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H880D940-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2972.2 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

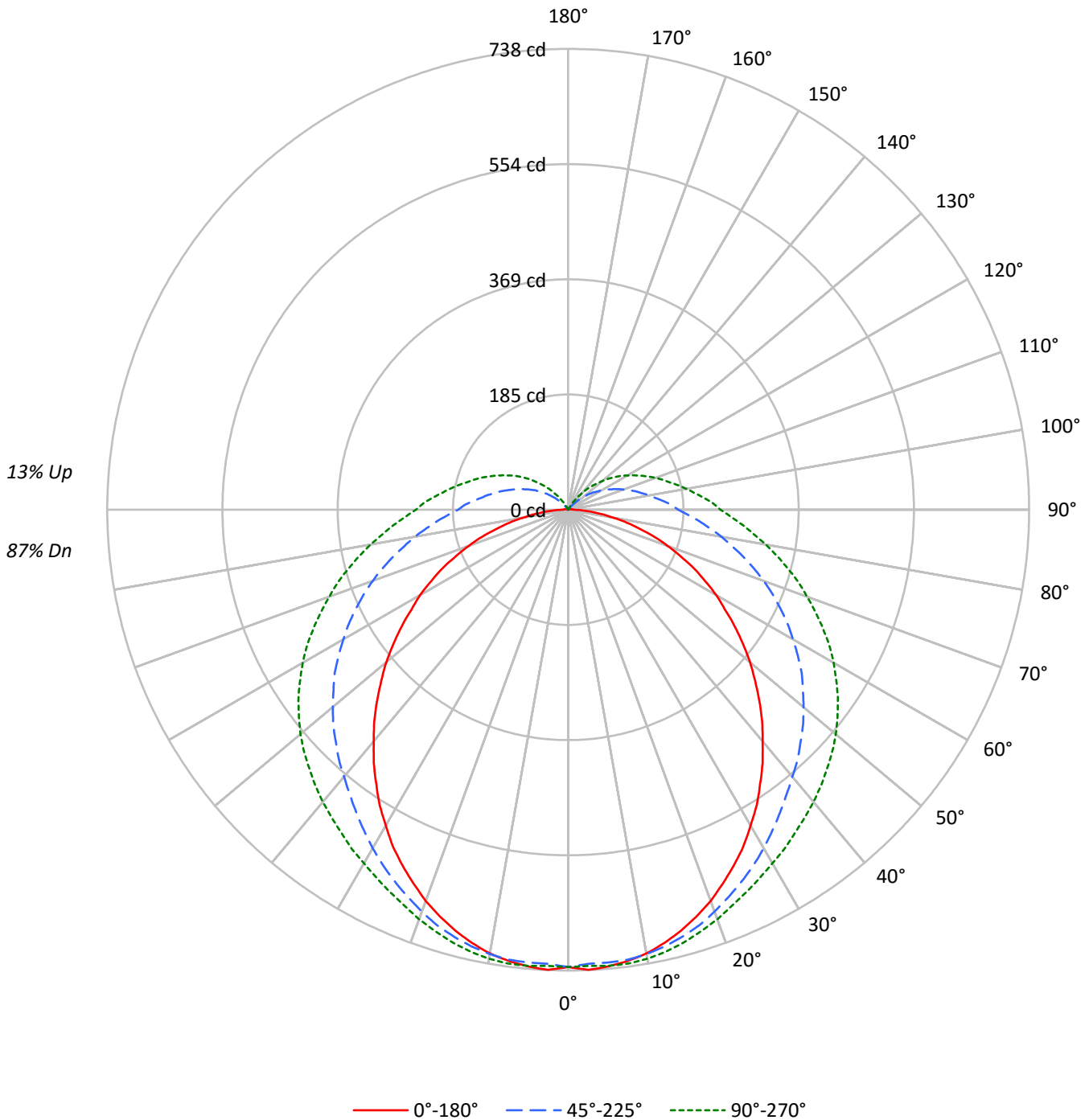
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	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	29	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	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21698	21698	21698
5°	21802	20498	20237
10°	21626	19525	18990
15°	21285	18512	17768
20°	20862	17499	16627
25°	20330	16523	15610
30°	19739	15614	14785
35°	19093	14750	14099
40°	18396	14021	13534
45°	17750	13412	13004
50°	17083	12828	12522
55°	16304	12281	12000
60°	15643	11642	11450
65°	14898	11036	10854
70°	13873	10414	10241
75°	12632	9754	9652
80°	11102	9139	9067
85°	9660	8558	8536



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.7	2.3
10°-20°	200.1	6.7
20°-30°	302.7	10.2
30°-40°	370.0	12.4
40°-50°	401.6	13.5
50°-60°	396.4	13.3
60°-70°	355.1	11.9
70°-80°	285.7	9.6
80°-90°	206.4	6.9
90°-100°	147.8	5.0
100°-110°	105.5	3.6
110°-120°	69.8	2.4
120°-130°	39.7	1.3
130°-140°	17.8	0.6
140°-150°	3.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	572.5	19.3
0°-40°	942.5	31.7
0°-60°	1740.5	58.6
0°-90°	2587.7	87.1
90°-120°	323.2	10.9
90°-150°	384.5	12.9
90°-180°	384.0	12.9
0°-180°	2972.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	734	732	728	736	733	70
15°	698	705	708	717	717	197
25°	628	644	657	672	675	289
35°	536	564	592	623	632	335
45°	433	474	526	571	586	334
55°	325	380	456	509	527	291
65°	222	291	375	433	450	219
75°	119	201	290	347	364	127
85°	35	120	210	264	280	37
90°	9	90	176	229	244	6
95°	6	72	154	203	218	5
105°	3	43	113	156	169	4
115°	2	20	77	117	129	2
125°	1	2	47	80	91	1
135°	0	0	18	45	54	0
145°	0	0	0	12	19	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°	732.3	732.3	732.3	732.3	732.3
2.5°	737.6	733.3	728.0	733.3	731.2
5°	734.4	732.3	728.0	735.5	733.3
7.5°	729.0	729.0	726.9	734.4	733.3
10°	721.5	723.7	722.6	731.2	730.1
12.5°	710.8	715.1	716.2	725.8	724.8
15°	697.9	705.4	707.6	717.2	717.2
17.5°	682.9	692.5	697.9	707.6	707.6
20°	666.8	677.5	685.0	696.8	697.9
22.5°	647.4	662.5	671.1	685.0	686.1
25°	628.1	644.2	657.1	672.1	675.4
27.5°	607.7	626.0	642.1	659.3	664.6
30°	584.1	604.5	626.0	646.4	653.9
32.5°	561.5	585.2	608.8	634.6	644.2
35°	535.8	563.7	591.6	622.8	632.4
37.5°	511.1	541.1	574.4	609.9	621.7
40°	484.2	518.6	558.3	598.1	610.9
42.5°	459.5	495.0	543.3	584.1	599.1
45°	432.7	473.5	526.1	571.2	586.2
47.5°	405.9	449.9	510.0	556.2	573.4
50°	380.1	426.3	491.8	542.2	559.4
52.5°	352.2	404.8	473.5	525.0	543.3
55°	325.3	380.1	456.3	508.9	527.2
57.5°	297.4	359.7	435.9	491.8	508.9
60°	273.8	336.1	415.5	472.4	490.7
62.5°	247.0	313.5	396.2	452.0	471.4
65°	222.3	291.0	374.7	432.7	449.9
67.5°	194.3	268.4	354.3	411.2	428.4
70°	169.6	245.9	332.8	389.8	406.9
72.5°	145.0	224.4	311.4	369.4	386.5
75°	119.2	200.8	289.9	346.8	364.0
77.5°	96.6	179.3	268.4	325.3	342.5
80°	73.0	157.8	249.1	304.9	321.0
82.5°	53.7	138.5	228.7	284.5	299.6
85°	35.4	120.3	210.4	264.1	280.2
87.5°	20.4	104.1	192.2	245.9	260.9
90°	8.6	90.2	176.1	228.7	243.7
92.5°	6.4	81.6	166.4	216.9	231.9
95°	6.4	71.9	153.5	202.9	218.0
97.5°	5.4	63.3	141.7	190.0	204.0
100°	4.3	55.8	132.1	178.2	192.2
102.5°	4.3	49.4	121.3	166.4	180.4
105°	3.2	42.9	112.7	155.7	168.6
107.5°	3.2	36.5	103.1	146.0	158.9
110°	2.1	31.1	94.5	136.4	149.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	25.8	85.9	126.7	138.5
115°	2.1	20.4	77.3	117.0	128.8
117.5°	1.1	15.0	69.8	107.4	119.2
120°	1.1	10.7	62.3	97.7	109.5
122.5°	1.1	5.4	53.7	89.1	100.9
125°	1.1	2.1	47.2	80.5	91.3
127.5°	0.0	0.0	39.7	70.9	81.6
130°	0.0	0.0	32.2	62.3	71.9
132.5°	0.0	0.0	25.8	53.7	62.3
135°	0.0	0.0	18.3	45.1	53.7
137.5°	0.0	0.0	11.8	36.5	45.1
140°	0.0	0.0	5.4	27.9	35.4
142.5°	0.0	0.0	1.1	20.4	26.8
145°	0.0	0.0	0.0	11.8	19.3
147.5°	0.0	0.0	0.0	4.3	10.7
150°	0.0	0.0	0.0	0.0	3.2
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)