

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: P243037

Luminaire Tested: **S121DR-H490D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243037
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-H490D940-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: 1645.7 lumens
Efficiency: N/A
Efficacy: 95.7 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

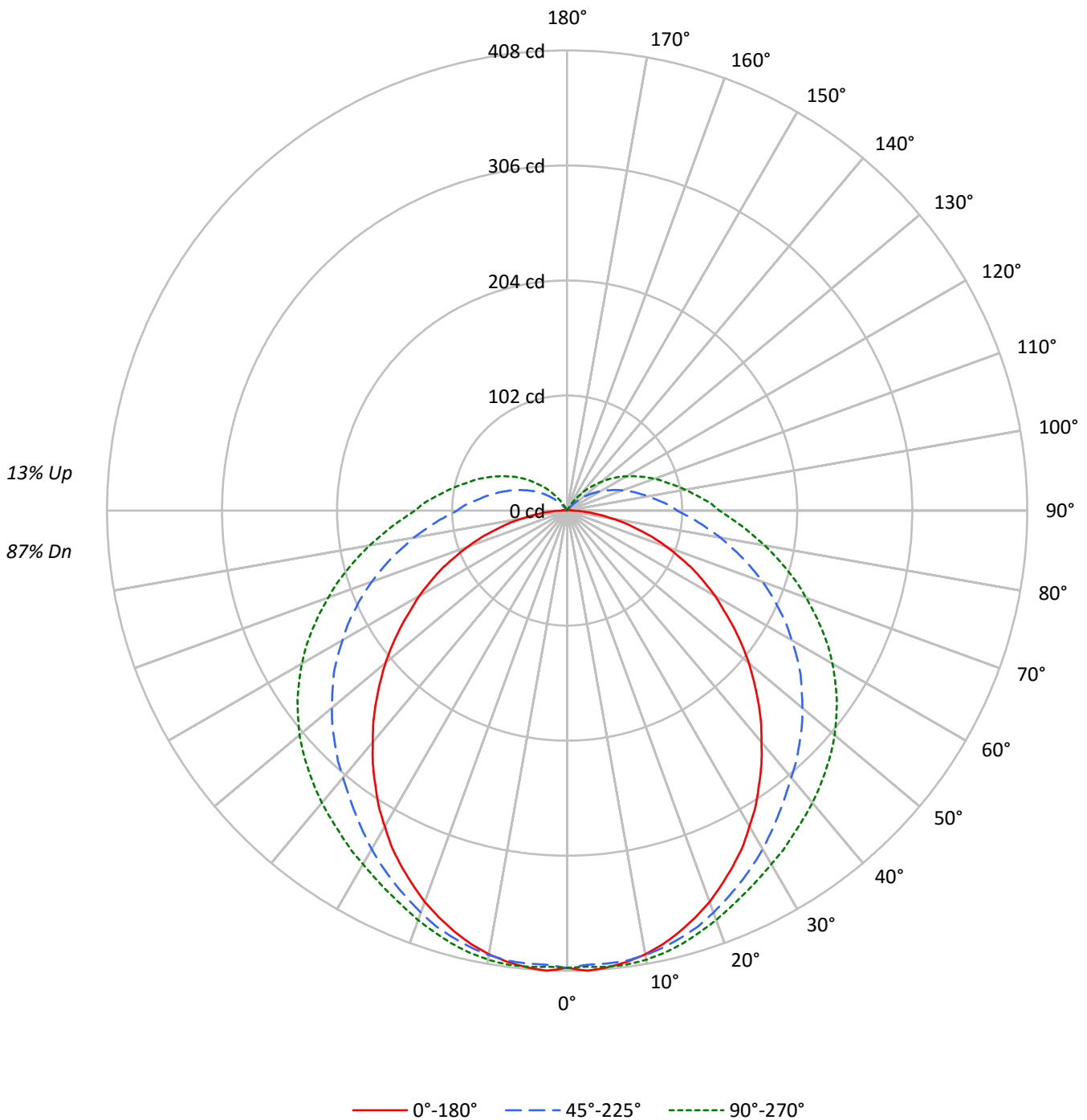
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12012	12012	12012
5°	12071	11350	11204
10°	11974	10811	10516
15°	11785	10250	9838
20°	11551	9690	9206
25°	11258	9148	8642
30°	10929	8645	8185
35°	10569	8168	7808
40°	10186	7763	7495
45°	9829	7426	7201
50°	9456	7103	6932
55°	9026	6801	6644
60°	8661	6447	6340
65°	8250	6111	6009
70°	7681	5767	5670
75°	6994	5400	5343
80°	6144	5059	5022
85°	5349	4739	4728



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.6	2.3
10°-20°	110.8	6.7
20°-30°	167.6	10.2
30°-40°	204.8	12.4
40°-50°	222.4	13.5
50°-60°	219.5	13.3
60°-70°	196.6	11.9
70°-80°	158.2	9.6
80°-90°	114.3	6.9
90°-100°	81.9	5.0
100°-110°	58.4	3.6
110°-120°	38.7	2.3
120°-130°	22.0	1.3
130°-140°	9.8	0.6
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	317.0	19.3
0°-40°	521.8	31.7
0°-60°	963.7	58.6
0°-90°	1432.8	87.1
90°-120°	179.0	10.9
90°-150°	212.9	12.9
90°-180°	213.0	12.9
0°-180°	1645.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	405	405	405	405	405	
5°	407	405	403	407	406	39
15°	386	391	392	397	397	109
25°	348	357	364	372	374	160
35°	297	312	328	345	350	186
45°	240	262	291	316	325	185
55°	180	210	253	282	292	161
65°	123	161	208	240	249	121
75°	66	111	160	192	202	70
85°	20	67	116	146	155	20
90°	5	50	98	127	135	3
95°	4	40	85	112	121	3
105°	2	24	62	86	93	2
115°	1	11	43	65	71	1
125°	1	1	26	45	50	0
135°	0	0	10	25	30	0
145°	0	0	0	6	11	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°	405.4	405.4	405.4	405.4	405.4
2.5°	408.4	406.0	403.1	406.0	404.8
5°	406.6	405.4	403.1	407.2	406.0
7.5°	403.7	403.7	402.5	406.6	406.0
10°	399.5	400.7	400.1	404.8	404.3
12.5°	393.6	395.9	396.5	401.9	401.3
15°	386.4	390.6	391.8	397.1	397.1
17.5°	378.1	383.4	386.4	391.8	391.8
20°	369.2	375.1	379.3	385.8	386.4
22.5°	358.5	366.8	371.6	379.3	379.9
25°	347.8	356.7	363.8	372.1	373.9
27.5°	336.5	346.6	355.5	365.0	368.0
30°	323.4	334.7	346.6	357.9	362.0
32.5°	310.9	324.0	337.1	351.3	356.7
35°	296.6	312.1	327.6	344.8	350.2
37.5°	283.0	299.6	318.1	337.7	344.2
40°	268.1	287.1	309.1	331.1	338.3
42.5°	254.4	274.1	300.8	323.4	331.7
45°	239.6	262.2	291.3	316.3	324.6
47.5°	224.7	249.1	282.4	307.9	317.5
50°	210.4	236.0	272.3	300.2	309.7
52.5°	195.0	224.1	262.2	290.7	300.8
55°	180.1	210.4	252.7	281.8	291.9
57.5°	164.7	199.2	241.4	272.3	281.8
60°	151.6	186.1	230.1	261.6	271.7
62.5°	136.7	173.6	219.4	250.3	261.0
65°	123.1	161.1	207.5	239.6	249.1
67.5°	107.6	148.6	196.2	227.7	237.2
70°	93.9	136.1	184.3	215.8	225.3
72.5°	80.3	124.2	172.4	204.5	214.0
75°	66.0	111.2	160.5	192.0	201.5
77.5°	53.5	99.3	148.6	180.1	189.6
80°	40.4	87.4	137.9	168.8	177.8
82.5°	29.7	76.7	126.6	157.5	165.9
85°	19.6	66.6	116.5	146.2	155.2
87.5°	11.3	57.7	106.4	136.1	144.5
90°	4.8	49.9	97.5	126.6	134.9
92.5°	3.6	45.2	92.1	120.1	128.4
95°	3.6	39.8	85.0	112.4	120.7
97.5°	3.0	35.1	78.5	105.2	113.0
100°	2.4	30.9	73.1	98.7	106.4
102.5°	2.4	27.3	67.2	92.1	99.9
105°	1.8	23.8	62.4	86.2	93.3
107.5°	1.8	20.2	57.1	80.9	88.0
110°	1.2	17.2	52.3	75.5	82.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	14.3	47.6	70.1	76.7
115°	1.2	11.3	42.8	64.8	71.3
117.5°	0.6	8.3	38.6	59.4	66.0
120°	0.6	5.9	34.5	54.1	60.6
122.5°	0.6	3.0	29.7	49.3	55.9
125°	0.6	1.2	26.2	44.6	50.5
127.5°	0.0	0.0	22.0	39.2	45.2
130°	0.0	0.0	17.8	34.5	39.8
132.5°	0.0	0.0	14.3	29.7	34.5
135°	0.0	0.0	10.1	25.0	29.7
137.5°	0.0	0.0	6.5	20.2	25.0
140°	0.0	0.0	3.0	15.5	19.6
142.5°	0.0	0.0	0.6	11.3	14.9
145°	0.0	0.0	0.0	6.5	10.7
147.5°	0.0	0.0	0.0	2.4	5.9
150°	0.0	0.0	0.0	0.0	1.8
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)