

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: P242159

Luminaire Tested: **S121DR-S880D835-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242159
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-S880D835-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3484.6 lumens
Efficiency: N/A
Efficacy: 100.1 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

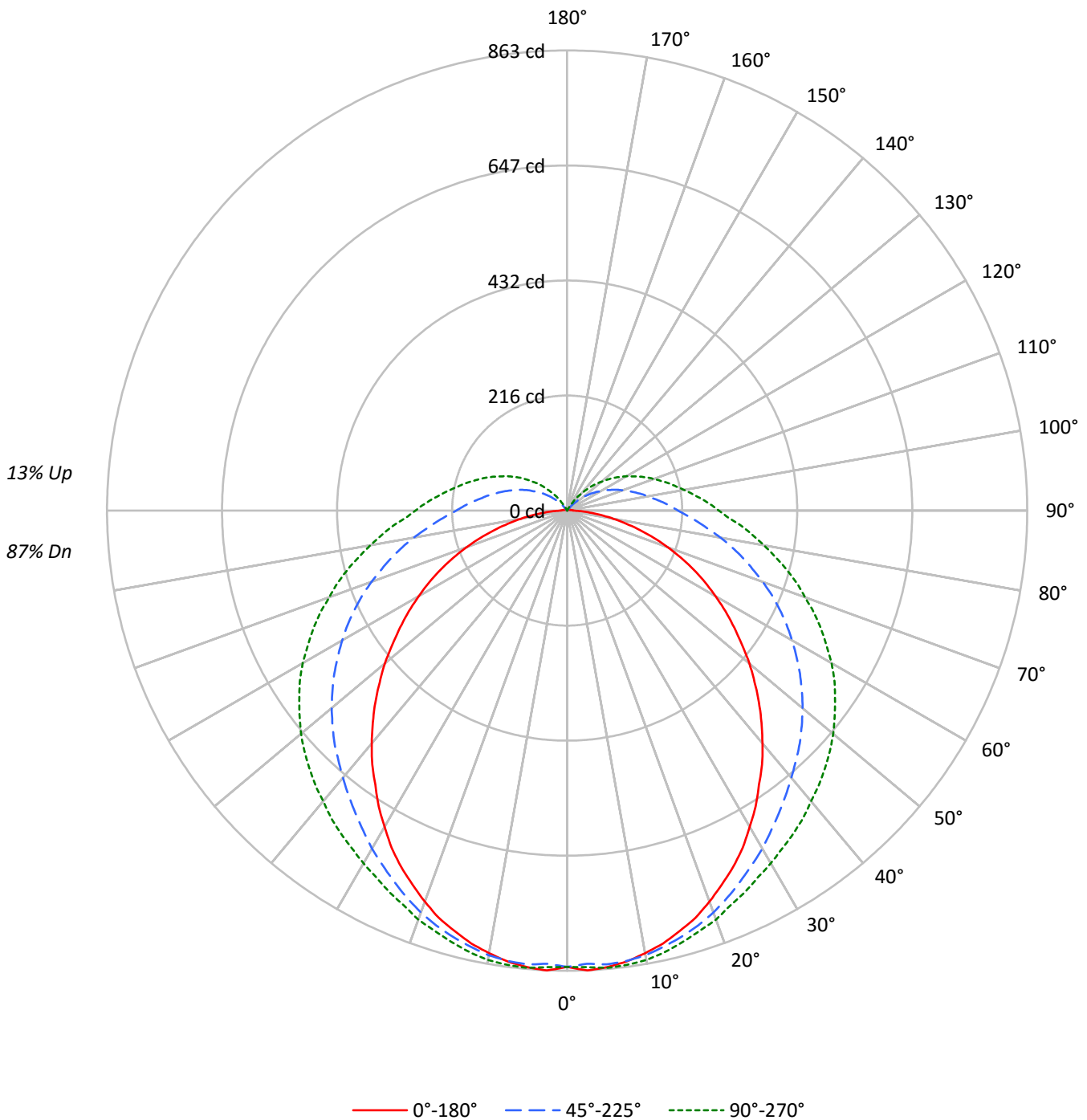
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	25354	25354	25354
5°	25516	24057	23755
10°	25264	22880	22257
15°	24893	21652	20756
20°	24416	20490	19445
25°	23859	19304	18245
30°	23142	18258	17272
35°	22357	17266	16489
40°	21656	16429	15765
45°	20871	15734	15163
50°	20058	15035	14586
55°	19175	14348	13963
60°	18362	13648	13361
65°	17519	12959	12675
70°	16376	12210	11940
75°	15006	11457	11294
80°	13383	10713	10589
85°	11489	10010	9983



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	2.3
10°-20°	234.3	6.7
20°-30°	354.3	10.2
30°-40°	433.2	12.4
40°-50°	470.3	13.5
50°-60°	464.0	13.3
60°-70°	416.4	12.0
70°-80°	335.2	9.6
80°-90°	242.1	6.9
90°-100°	173.0	5.0
100°-110°	123.9	3.6
110°-120°	82.6	2.4
120°-130°	47.5	1.4
130°-140°	21.5	0.6
140°-150°	4.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	670.3	19.2
0°-40°	1103.5	31.7
0°-60°	2037.8	58.5
0°-90°	3031.5	87.0
90°-120°	379.5	10.9
90°-150°	453.1	13.0
90°-180°	453.0	13.0
0°-180°	3484.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	856	856	856	856	856	
5°	860	858	854	862	861	82
15°	816	828	828	839	838	230
25°	737	756	768	786	789	339
35°	627	662	692	727	740	393
45°	509	555	617	667	684	392
55°	383	449	533	594	613	342
65°	261	344	440	505	525	259
75°	142	237	340	406	426	150
85°	42	143	246	309	328	44
90°	12	107	208	266	284	8
95°	9	85	180	237	252	7
105°	5	51	131	182	198	6
115°	4	26	92	136	150	4
125°	3	4	56	94	107	2
135°	1	1	22	54	64	1
145°	0	0	0	15	22	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°	855.7	855.7	855.7	855.7	855.7
2.5°	863.3	859.5	850.6	859.5	857.0
5°	859.5	858.2	854.4	862.1	860.8
7.5°	853.1	855.7	851.9	862.1	859.5
10°	842.9	849.3	846.8	857.0	855.7
12.5°	831.5	839.1	837.8	849.3	848.0
15°	816.2	827.6	827.6	839.1	837.8
17.5°	800.9	812.3	816.2	828.9	826.4
20°	780.4	795.8	802.1	813.6	816.2
22.5°	758.8	777.9	785.6	799.6	800.9
25°	737.1	756.2	767.7	785.6	789.4
27.5°	712.9	734.5	749.8	770.2	775.3
30°	684.8	711.6	732.0	754.9	763.9
32.5°	658.0	687.4	711.6	742.2	751.1
35°	627.4	661.9	692.5	726.9	739.6
37.5°	600.6	636.3	673.3	712.9	726.9
40°	570.0	608.3	654.2	697.6	711.6
42.5°	539.4	582.8	635.1	683.5	698.8
45°	508.8	554.7	617.2	667.0	683.5
47.5°	476.9	529.2	596.8	650.4	668.2
50°	446.3	502.4	576.4	632.5	651.6
52.5°	413.2	475.7	554.7	613.4	632.5
55°	382.6	448.9	533.1	594.3	613.4
57.5°	352.0	422.1	510.1	572.6	594.3
60°	321.4	395.3	487.1	550.9	572.6
62.5°	292.0	369.8	464.2	529.2	548.4
65°	261.4	344.3	440.0	505.0	525.4
67.5°	230.8	317.5	415.7	480.8	501.2
70°	200.2	289.5	390.2	456.5	474.4
72.5°	170.9	264.0	364.7	432.3	451.4
75°	141.6	237.2	340.5	405.5	425.9
77.5°	113.5	211.7	316.3	381.3	399.2
80°	88.0	186.2	292.0	357.1	374.9
82.5°	63.8	164.5	267.8	331.6	350.7
85°	42.1	142.8	246.1	308.6	327.7
87.5°	25.5	123.7	225.7	286.9	302.2
90°	11.5	107.1	207.9	266.5	284.4
92.5°	10.2	95.6	193.8	252.5	269.1
95°	8.9	85.4	179.8	237.2	252.5
97.5°	7.7	75.2	165.8	221.9	237.2
100°	6.4	66.3	154.3	207.9	223.2
102.5°	6.4	58.7	142.8	193.8	209.1
105°	5.1	51.0	131.4	182.4	197.7
107.5°	5.1	44.6	121.1	170.9	184.9
110°	5.1	38.3	110.9	159.4	173.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	31.9	102.0	147.9	162.0
115°	3.8	25.5	91.8	136.5	150.5
117.5°	3.8	19.1	82.9	126.2	139.0
120°	2.6	14.0	72.7	116.0	128.8
122.5°	2.6	8.9	65.0	104.6	117.3
125°	2.6	3.8	56.1	94.4	107.1
127.5°	2.6	1.3	47.2	84.2	95.6
130°	1.3	1.3	39.5	74.0	84.2
132.5°	1.3	1.3	30.6	63.8	75.2
135°	1.3	1.3	21.7	53.6	63.8
137.5°	1.3	0.0	14.0	43.4	52.3
140°	1.3	0.0	7.7	34.4	42.1
142.5°	1.3	0.0	1.3	24.2	33.2
145°	0.0	0.0	0.0	15.3	21.7
147.5°	0.0	0.0	0.0	6.4	12.8
150°	0.0	0.0	0.0	0.0	3.8
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)