

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931498

Luminaire Tested: DFN2DS-TR4F0-070DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931498
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-070DS830-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

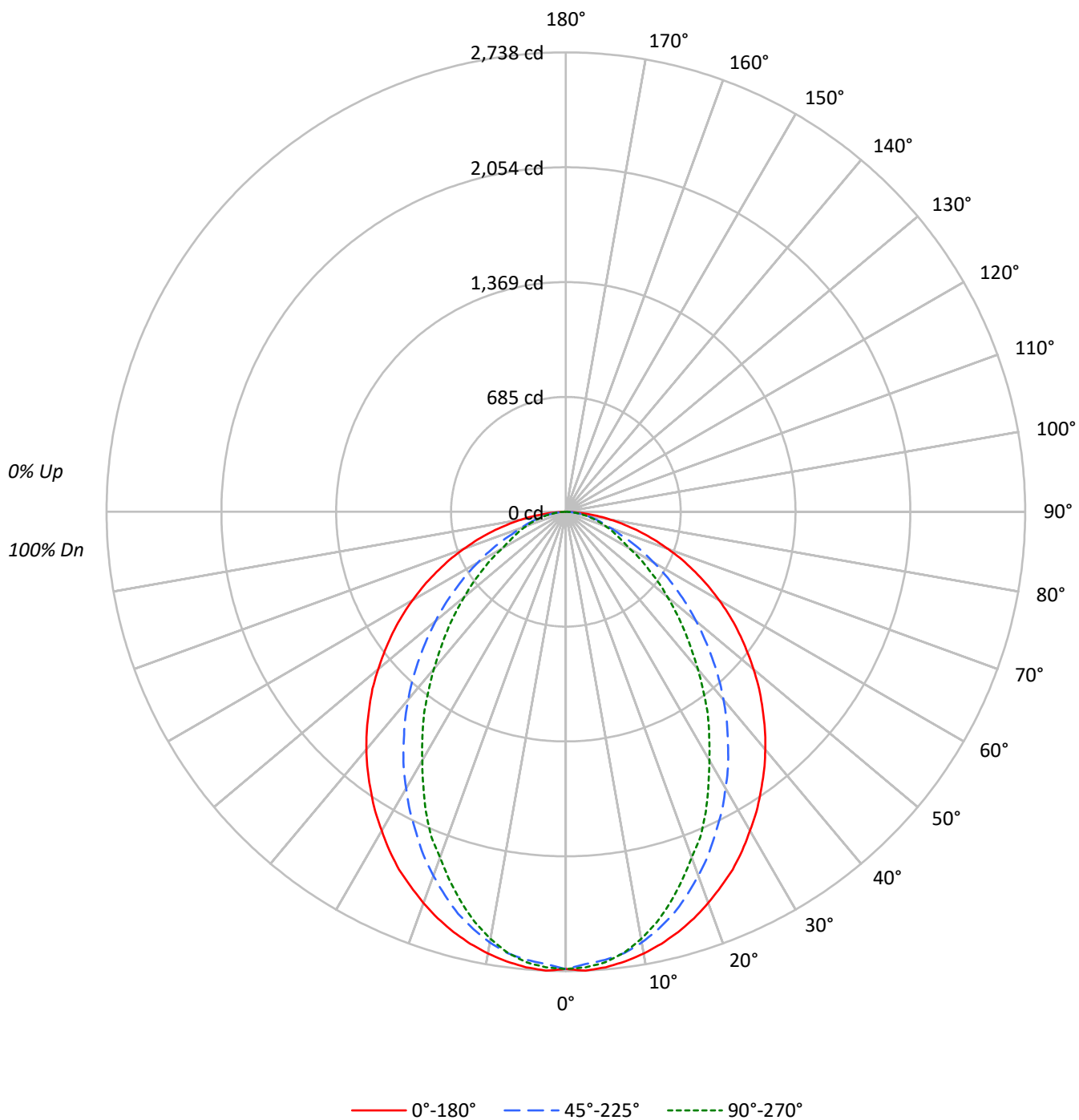
Lumens per Lamp: N/A
Luminaire Lumens: 5604.9 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 71.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2165	2165	2165
5°	2173	2138	2150
10°	2157	2103	2085
15°	2132	2041	1982
20°	2098	1952	1854
25°	2062	1851	1729
30°	2014	1747	1570
35°	1966	1634	1430
40°	1918	1517	1269
45°	1862	1386	1122
50°	1805	1253	979
55°	1745	1110	840
60°	1677	960	698
65°	1600	807	635
70°	1507	664	584
75°	1393	606	545
80°	1230	541	497
85°	966	427	427

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1862 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.4	4.6
10°-20°	701.2	12.5
20°-30°	984.4	17.6
30°-40°	1073.1	19.1
40°-50°	986.3	17.6
50°-60°	774.6	13.8
60°-70°	504.2	9.0
70°-80°	259.5	4.6
80°-90°	66.2	1.2
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°	1941.0	34.6
0°-40°	3014.1	53.8
0°-60°	4775.0	85.2
0°-90°	5604.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5604.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2725	2725	2725	2725	2725	
5°	2725	2713	2681	2703	2696	258
15°	2592	2565	2481	2434	2410	730
25°	2353	2274	2111	2010	1973	1082
35°	2027	1902	1685	1529	1475	1269
45°	1657	1492	1233	1058	999	1280
55°	1260	1068	802	654	607	1126
65°	851	651	429	345	338	844
75°	454	281	197	180	178	480
85°	106	54	47	47	47	127
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2725.3	2725.3	2725.3	2725.3	2725.3
2.5°	2737.5	2725.3	2698.1	2722.9	2718.0
5°	2725.3	2713.0	2680.8	2703.1	2695.7
7.5°	2703.1	2688.4	2653.9	2663.5	2651.3
10°	2673.5	2656.3	2607.0	2599.4	2584.8
12.5°	2636.6	2614.3	2547.6	2532.9	2505.7
15°	2592.1	2564.9	2481.1	2434.3	2409.7
17.5°	2540.3	2500.8	2397.2	2342.9	2303.5
20°	2481.1	2431.7	2308.5	2247.0	2192.5
22.5°	2417.1	2360.3	2217.1	2133.3	2096.5
25°	2352.9	2273.9	2111.1	2010.1	1973.0
27.5°	2276.5	2192.5	2012.5	1896.6	1839.8
30°	2195.1	2101.2	1903.9	1778.3	1711.6
32.5°	2116.1	2002.6	1800.5	1652.5	1590.7
35°	2027.4	1901.5	1684.7	1529.2	1474.8
37.5°	1941.1	1805.2	1576.1	1405.7	1344.2
40°	1849.7	1701.9	1462.5	1287.4	1223.3
42.5°	1756.1	1598.3	1349.1	1166.5	1105.1
45°	1657.4	1492.0	1233.3	1058.0	998.8
47.5°	1563.7	1388.7	1122.3	947.0	892.8
50°	1460.1	1285.1	1013.7	843.4	791.8
52.5°	1358.8	1173.8	910.1	747.3	700.5
55°	1260.2	1067.9	801.5	653.7	606.8
57.5°	1159.2	961.9	705.5	567.3	527.8
60°	1055.6	858.3	604.2	478.6	439.1
62.5°	954.5	757.3	517.8	399.6	379.9
65°	850.9	651.0	429.2	345.4	337.8
67.5°	752.3	552.4	345.4	303.2	296.0
70°	648.7	456.3	286.0	261.4	251.4
72.5°	550.0	367.4	239.2	219.6	214.6
75°	453.8	281.0	197.3	180.0	177.7
77.5°	357.7	199.6	155.4	145.4	140.5
80°	268.8	143.1	118.3	108.6	108.6
82.5°	187.4	96.3	81.4	76.4	76.4
85°	106.0	54.2	46.8	46.8	46.8
87.5°	39.5	19.6	19.6	17.2	17.2
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	13.92	15.44	14.28	15.75	16.07	9.88	11.40	10.24	11.71	12.03
	3H	15.68	17.05	16.06	17.38	17.74	11.14	12.51	11.52	12.84	13.20
	4H	16.35	17.63	16.75	17.98	18.36	11.65	12.93	12.05	13.28	13.65
	6H	16.84	18.02	17.25	18.39	18.78	12.03	13.21	12.44	13.58	13.97
	8H	17.00	18.13	17.43	18.52	18.92	12.15	13.28	12.58	13.67	14.07
	12H	17.11	18.19	17.54	18.57	19.00	12.23	13.31	12.66	13.69	14.12
4H	2H	14.02	15.30	14.42	15.65	16.03	10.57	11.86	10.97	12.20	12.58
	3H	15.96	17.02	16.37	17.42	17.82	12.02	13.08	12.43	13.48	13.88
	4H	16.71	17.66	17.14	18.08	18.52	12.62	13.57	13.05	13.99	14.43
	6H	17.30	18.13	17.75	18.57	19.03	13.11	13.94	13.56	14.38	14.84
	8H	17.51	18.29	17.97	18.73	19.20	13.27	14.04	13.73	14.49	14.96
	12H	17.67	18.36	18.15	18.84	19.31	13.38	14.08	13.87	14.56	15.03
8H	4H	16.73	17.51	17.19	17.95	18.42	12.97	13.75	13.43	14.19	14.66
	6H	17.37	18.01	17.86	18.50	18.98	13.56	14.20	14.05	14.69	15.17
	8H	17.62	18.19	18.13	18.70	19.19	13.78	14.35	14.29	14.86	15.35
	12H	17.82	18.33	18.33	18.82	19.39	13.96	14.47	14.47	14.96	15.52
12H	4H	16.71	17.41	17.20	17.89	18.36	13.01	13.71	13.50	14.19	14.66
	6H	17.35	17.93	17.86	18.43	18.92	13.62	14.20	14.13	14.71	15.20
	8H	17.63	18.14	18.14	18.63	19.20	13.89	14.40	14.40	14.90	15.46