

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: P931587

Luminaire Tested: DFN2DS-TR4F0-120DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931587
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-120DS830-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

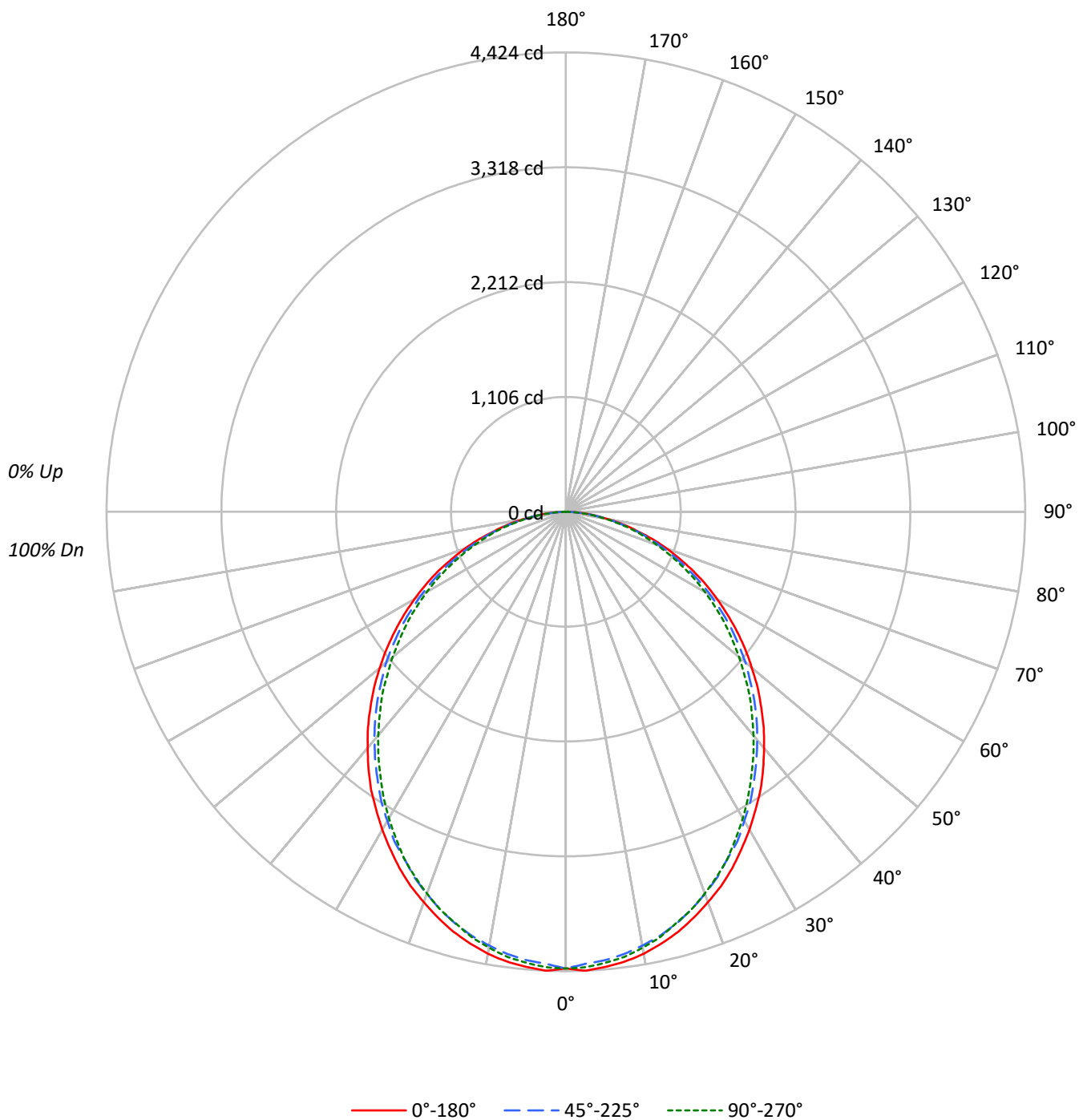
Lumens per Lamp: N/A
Luminaire Lumens: 11191.0 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 131.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3494	3494	3494
5°	3508	3457	3478
10°	3487	3422	3439
15°	3444	3378	3374
20°	3382	3311	3308
25°	3322	3229	3229
30°	3244	3154	3127
35°	3171	3064	3019
40°	3079	2974	2917
45°	2989	2884	2813
50°	2891	2791	2692
55°	2789	2683	2584
60°	2674	2554	2460
65°	2553	2425	2314
70°	2397	2269	2162
75°	2181	2089	2038
80°	1936	1876	1780
85°	1579	1505	1350

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2989 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.0	3.7
10°-20°	1164.8	10.4
20°-30°	1711.8	15.3
30°-40°	1988.1	17.8
40°-50°	1985.7	17.7
50°-60°	1731.4	15.5
60°-70°	1279.9	11.4
70°-80°	724.1	6.5
80°-90°	191.1	1.7
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°	3290.5	29.4
0°-40°	5278.7	47.2
0°-60°	8995.8	80.4
0°-90°	11191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11191.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4398	4398	4398	4398	4398	
5°	4398	4382	4335	4369	4361	418
15°	4187	4162	4107	4124	4103	1179
25°	3790	3756	3684	3692	3684	1744
35°	3269	3227	3160	3134	3113	2042
45°	2660	2631	2567	2521	2504	2053
55°	2013	1988	1937	1886	1865	1800
65°	1358	1332	1290	1252	1231	1343
75°	710	702	681	656	664	758
85°	173	169	165	152	148	204
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4398.5	4398.5	4398.5	4398.5	4398.5
2.5°	4424.0	4402.9	4356.3	4398.5	4390.4
5°	4398.5	4381.8	4335.2	4368.8	4360.7
7.5°	4368.8	4343.7	4297.0	4331.1	4322.6
10°	4322.6	4293.0	4242.3	4275.9	4263.4
12.5°	4258.9	4233.7	4183.0	4204.1	4195.6
15°	4187.1	4161.9	4106.7	4123.8	4102.7
17.5°	4098.3	4073.1	4017.9	4039.0	4017.9
20°	4000.9	3975.7	3916.6	3929.1	3912.5
22.5°	3903.9	3865.8	3810.6	3810.6	3802.1
25°	3789.5	3755.8	3684.1	3692.2	3684.1
27.5°	3662.5	3632.9	3578.2	3565.6	3544.6
30°	3536.0	3501.9	3438.6	3426.1	3409.0
32.5°	3400.4	3375.4	3307.6	3282.0	3265.0
35°	3269.4	3227.3	3159.5	3133.9	3112.8
37.5°	3121.3	3083.3	3015.4	2985.9	2964.8
40°	2969.3	2935.2	2867.4	2829.7	2812.6
42.5°	2821.2	2787.1	2719.7	2677.2	2652.0
45°	2660.5	2630.9	2567.1	2521.0	2503.9
47.5°	2503.9	2474.3	2406.5	2359.9	2334.7
50°	2338.8	2317.7	2258.4	2199.2	2178.1
52.5°	2178.1	2148.5	2093.8	2047.1	2017.5
55°	2013.4	1987.9	1937.1	1886.4	1865.3
57.5°	1848.3	1827.2	1772.0	1721.3	1704.3
60°	1683.2	1666.6	1607.3	1560.7	1548.1
62.5°	1522.6	1492.9	1450.8	1408.6	1391.5
65°	1357.9	1332.3	1290.1	1251.9	1230.9
67.5°	1188.7	1167.1	1129.5	1099.9	1082.8
70°	1032.1	1015.0	976.9	947.3	930.7
72.5°	871.4	854.4	833.3	803.7	791.1
75°	710.4	702.3	680.7	655.6	664.1
77.5°	566.7	549.7	541.2	528.6	516.0
80°	423.1	418.6	410.1	397.6	389.0
82.5°	287.6	287.6	283.6	266.6	266.6
85°	173.2	169.2	165.1	152.1	148.1
87.5°	76.3	67.7	59.3	46.6	42.2
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	15.63	17.24	15.99	17.55	17.87	15.19	16.80	15.55	17.11	17.42
	3H	17.38	18.83	17.76	19.16	19.52	16.89	18.34	17.27	18.67	19.03
	4H	18.03	19.39	18.42	19.74	20.12	17.53	18.90	17.93	19.25	19.62
	6H	18.49	19.76	18.91	20.13	20.52	17.99	19.26	18.40	19.63	20.02
	8H	18.64	19.85	19.06	20.24	20.64	18.14	19.35	18.56	19.73	20.13
	12H	18.73	19.89	19.16	20.27	20.70	18.22	19.38	18.65	19.76	20.19
4H	2H	16.19	17.56	16.59	17.91	18.28	15.84	17.21	16.24	17.55	17.93
	3H	18.17	19.31	18.57	19.71	20.11	17.76	18.90	18.17	19.30	19.70
	4H	18.94	19.98	19.37	20.39	20.83	18.52	19.55	18.95	19.97	20.40
	6H	19.54	20.44	19.99	20.88	21.34	19.11	20.01	19.56	20.45	20.91
	8H	19.73	20.57	20.19	21.02	21.48	19.29	20.14	19.75	20.58	21.04
	12H	19.86	20.62	20.34	21.09	21.56	19.41	20.17	19.89	20.64	21.11
8H	4H	19.21	20.06	19.68	20.50	20.97	18.84	19.69	19.30	20.13	20.60
	6H	19.93	20.63	20.42	21.12	21.60	19.55	20.25	20.04	20.74	21.21
	8H	20.19	20.82	20.70	21.33	21.81	19.80	20.43	20.31	20.93	21.42
	12H	20.39	20.95	20.90	21.44	22.00	19.98	20.53	20.48	21.02	21.58
12H	4H	19.24	20.00	19.72	20.48	20.95	18.88	19.64	19.36	20.11	20.58
	6H	19.97	20.61	20.48	21.11	21.60	19.61	20.24	20.12	20.74	21.23
	8H	20.29	20.85	20.80	21.34	21.90	19.91	20.47	20.42	20.96	21.52