

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: P931590

Luminaire Tested: DFN2DS-TR4F0-120DS835-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931590
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-TR4F0-120DS835-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

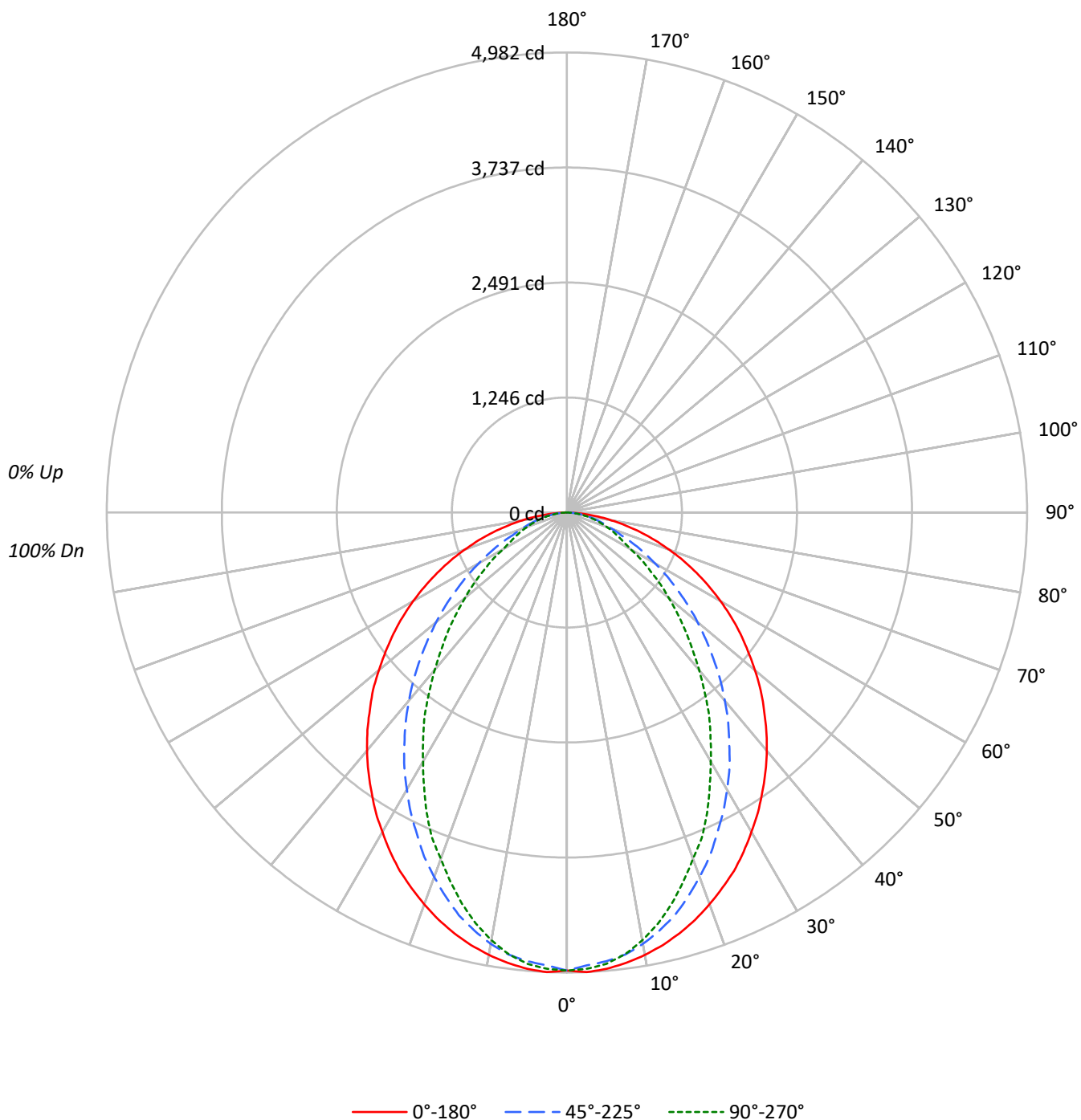
Lumens per Lamp: N/A
Luminaire Lumens: 10200.0 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	3940	3940	3940
5°	3955	3891	3912
10°	3925	3827	3795
15°	3880	3714	3607
20°	3817	3552	3373
25°	3753	3368	3147
30°	3665	3178	2857
35°	3578	2973	2603
40°	3491	2760	2309
45°	3389	2521	2042
50°	3284	2280	1781
55°	3176	2020	1530
60°	3052	1747	1270
65°	2911	1468	1156
70°	2742	1209	1063
75°	2534	1102	992
80°	2238	985	904
85°	1758	777	777

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3389 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	464.8	4.6
10°-20°	1276.0	12.5
20°-30°	1791.5	17.6
30°-40°	1952.8	19.1
40°-50°	1794.9	17.6
50°-60°	1409.6	13.8
60°-70°	917.5	9.0
70°-80°	472.3	4.6
80°-90°	120.6	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°	3532.3	34.6
0°-40°	5485.2	53.8
0°-60°	8689.6	85.2
0°-90°	10200.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4960	4960	4960	4960	4960	
5°	4960	4937	4879	4919	4906	470
15°	4717	4668	4515	4430	4385	1329
25°	4282	4138	3842	3658	3590	1969
35°	3690	3460	3066	2783	2684	2309
45°	3016	2715	2244	1925	1818	2329
55°	2293	1943	1459	1190	1104	2049
65°	1549	1185	781	629	615	1535
75°	826	511	359	328	323	873
85°	193	99	85	85	85	231
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4959.6	4959.6	4959.6	4959.6	4959.6
2.5°	4982.0	4959.6	4910.1	4955.3	4946.2
5°	4959.6	4937.2	4878.6	4919.1	4905.8
7.5°	4919.1	4892.4	4829.6	4847.2	4824.8
10°	4865.3	4833.9	4744.3	4730.5	4703.9
12.5°	4798.1	4757.7	4636.2	4609.6	4560.1
15°	4717.2	4667.7	4515.3	4430.0	4385.3
17.5°	4622.9	4551.0	4362.4	4263.9	4192.0
20°	4515.3	4425.3	4201.0	4089.1	3990.0
22.5°	4398.6	4295.3	4034.8	3882.4	3815.3
25°	4282.0	4138.1	3841.9	3658.1	3590.5
27.5°	4142.9	3990.0	3662.4	3451.5	3348.1
30°	3994.8	3823.9	3464.8	3236.2	3114.8
32.5°	3851.0	3644.3	3276.7	3007.2	2894.8
35°	3689.6	3460.5	3065.7	2782.9	2683.8
37.5°	3532.4	3285.3	2868.1	2558.1	2446.2
40°	3366.2	3097.2	2661.5	2342.9	2226.2
42.5°	3195.7	2908.6	2455.3	2122.9	2011.0
45°	3016.2	2715.3	2244.3	1925.3	1817.6
47.5°	2845.7	2527.2	2042.4	1723.4	1624.8
50°	2657.2	2338.6	1844.8	1534.8	1441.0
52.5°	2472.9	2136.2	1656.2	1360.0	1274.8
55°	2293.4	1943.4	1458.6	1189.5	1104.3
57.5°	2109.5	1750.5	1283.8	1032.4	960.5
60°	1921.0	1561.9	1099.5	871.0	799.1
62.5°	1737.2	1378.1	942.4	727.2	691.4
65°	1548.6	1184.8	781.0	628.6	614.8
67.5°	1369.1	1005.2	628.6	551.9	538.6
70°	1180.5	830.5	520.5	475.7	457.6
72.5°	1001.0	668.6	435.2	399.5	390.5
75°	825.7	511.4	359.1	327.6	323.3
77.5°	651.0	363.3	282.9	264.8	255.7
80°	489.1	260.5	215.2	197.6	197.6
82.5°	341.0	175.2	148.1	139.0	139.0
85°	192.9	98.6	85.2	85.2	85.2
87.5°	71.9	35.7	35.7	31.4	31.4
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	16.00	17.52	16.36	17.83	18.15	11.96	13.48	12.32	13.79	14.11
	3H	17.76	19.13	18.14	19.46	19.82	13.22	14.59	13.60	14.92	15.28
	4H	18.43	19.71	18.83	20.06	20.44	13.73	15.01	14.13	15.36	15.73
	6H	18.92	20.10	19.33	20.47	20.86	14.11	15.29	14.52	15.66	16.05
	8H	19.08	20.21	19.51	20.60	21.00	14.23	15.36	14.66	15.75	16.15
	12H	19.19	20.27	19.62	20.65	21.08	14.31	15.39	14.74	15.77	16.20
4H	2H	16.10	17.38	16.50	17.73	18.11	12.65	13.94	13.05	14.28	14.66
	3H	18.04	19.10	18.45	19.50	19.90	14.10	15.16	14.51	15.56	15.96
	4H	18.79	19.74	19.22	20.16	20.60	14.70	15.65	15.13	16.07	16.51
	6H	19.38	20.21	19.83	20.65	21.11	15.19	16.02	15.64	16.46	16.92
	8H	19.59	20.37	20.06	20.81	21.28	15.35	16.12	15.81	16.57	17.04
	12H	19.75	20.44	20.23	20.92	21.39	15.46	16.16	15.95	16.64	17.11
8H	4H	18.81	19.59	19.27	20.03	20.50	15.05	15.83	15.51	16.27	16.74
	6H	19.45	20.09	19.94	20.58	21.06	15.64	16.28	16.13	16.77	17.25
	8H	19.70	20.27	20.21	20.78	21.27	15.86	16.44	16.37	16.94	17.43
	12H	19.90	20.41	20.41	20.90	21.47	16.04	16.55	16.55	17.04	17.60
12H	4H	18.79	19.49	19.28	19.97	20.44	15.09	15.79	15.58	16.27	16.74
	6H	19.43	20.01	19.94	20.52	21.00	15.70	16.28	16.21	16.79	17.28
	8H	19.71	20.22	20.22	20.71	21.28	15.97	16.48	16.48	16.98	17.54

END OF REPORT