

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: P931598

Luminaire Tested: DFN2DS-TR4F0-120DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931598
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-TR4F0-120DS930-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

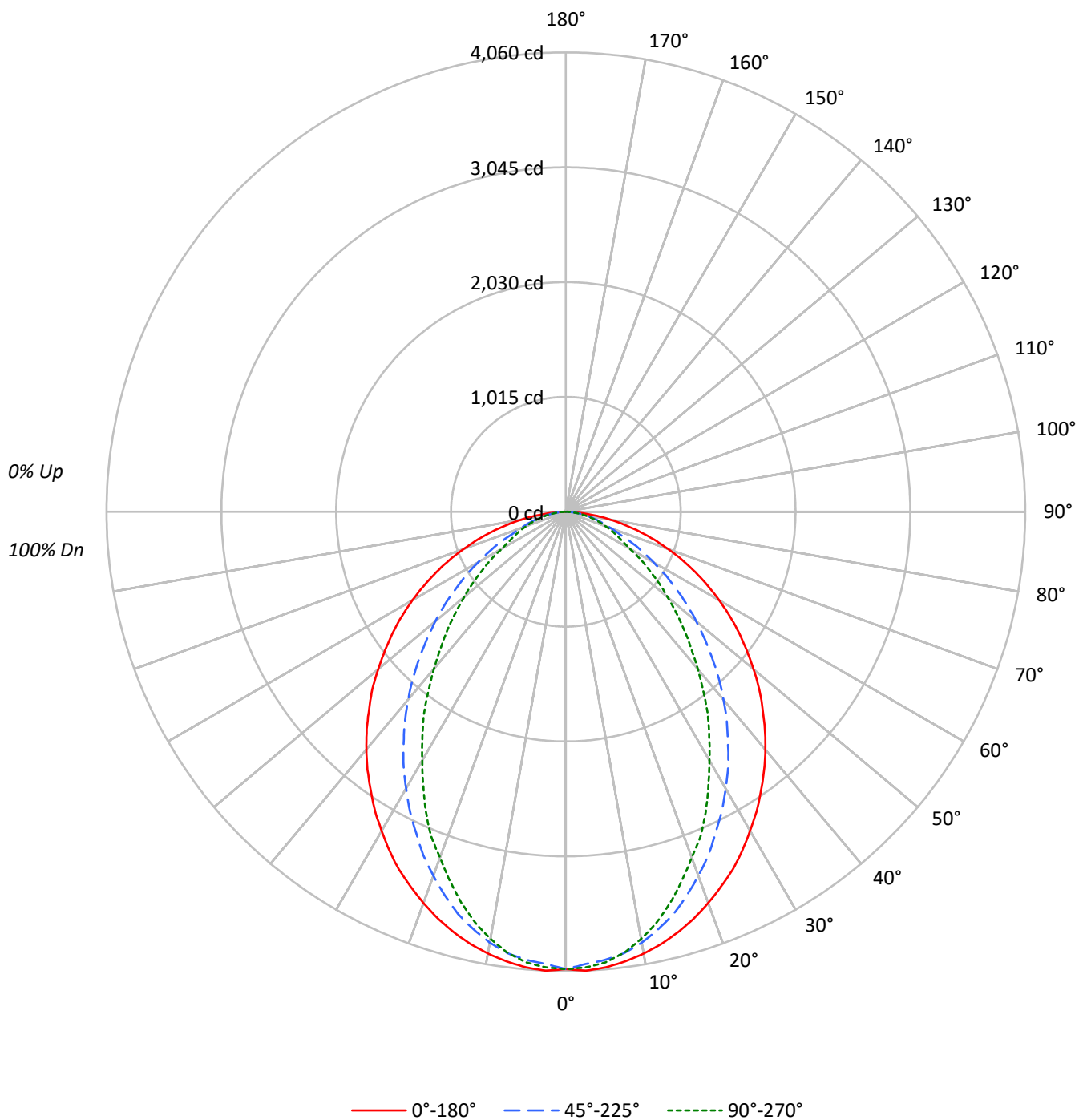
Lumens per Lamp: N/A
Luminaire Lumens: 8313.0 lumens
Efficiency: N/A
Efficacy: 63.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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°	3211	3211	3211
5°	3223	3171	3188
10°	3199	3119	3093
15°	3162	3027	2939
20°	3111	2895	2749
25°	3059	2745	2565
30°	2987	2590	2329
35°	2916	2423	2121
40°	2845	2249	1882
45°	2762	2055	1664
50°	2677	1858	1451
55°	2589	1647	1247
60°	2488	1424	1035
65°	2372	1196	942
70°	2235	985	866
75°	2065	898	809
80°	1824	802	737
85°	1433	633	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2762 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.8	4.6
10°-20°	1040.0	12.5
20°-30°	1460.1	17.6
30°-40°	1591.6	19.1
40°-50°	1462.8	17.6
50°-60°	1148.8	13.8
60°-70°	747.8	9.0
70°-80°	384.9	4.6
80°-90°	98.3	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°	2878.9	34.6
0°-40°	4470.4	53.8
0°-60°	7082.1	85.2
0°-90°	8313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4042	4042	4042	4042	4042	
5°	4042	4024	3976	4009	3998	383
15°	3844	3804	3680	3610	3574	1083
25°	3490	3373	3131	2981	2926	1605
35°	3007	2820	2498	2268	2187	1882
45°	2458	2213	1829	1569	1481	1898
55°	1869	1584	1189	969	900	1670
65°	1262	966	636	512	501	1251
75°	673	417	293	267	264	712
85°	157	80	69	69	69	188
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4042.1	4042.1	4042.1	4042.1	4042.1
2.5°	4060.3	4042.1	4001.7	4038.6	4031.2
5°	4042.1	4023.8	3976.1	4009.1	3998.2
7.5°	4009.1	3987.3	3936.1	3950.5	3932.2
10°	3965.2	3939.6	3866.6	3855.4	3833.7
12.5°	3910.5	3877.5	3778.5	3756.8	3716.5
15°	3844.5	3804.2	3680.0	3610.4	3574.0
17.5°	3767.7	3709.1	3555.4	3475.1	3416.5
20°	3680.0	3606.6	3423.8	3332.6	3251.8
22.5°	3584.9	3500.7	3288.4	3164.2	3109.5
25°	3489.8	3372.6	3131.1	2981.4	2926.3
27.5°	3376.5	3251.8	2984.9	2813.0	2728.7
30°	3255.8	3116.5	2823.8	2637.5	2538.6
32.5°	3138.6	2970.1	2670.5	2450.9	2359.3
35°	3007.0	2820.3	2498.5	2268.1	2187.3
37.5°	2878.9	2677.5	2337.5	2084.9	1993.7
40°	2743.5	2524.2	2169.1	1909.5	1814.4
42.5°	2604.5	2370.5	2001.1	1730.2	1639.0
45°	2458.2	2213.0	1829.1	1569.1	1481.3
47.5°	2319.2	2059.7	1664.6	1404.6	1324.2
50°	2165.6	1906.0	1503.5	1250.9	1174.4
52.5°	2015.4	1741.0	1349.8	1108.4	1039.0
55°	1869.1	1583.9	1188.8	969.4	900.0
57.5°	1719.2	1426.7	1046.3	841.4	782.8
60°	1565.6	1272.9	896.1	709.9	651.3
62.5°	1415.8	1123.2	768.1	592.7	563.5
65°	1262.1	965.6	636.5	512.3	501.1
67.5°	1115.8	819.2	512.3	449.8	439.0
70°	962.1	676.9	424.2	387.7	372.9
72.5°	815.8	544.9	354.7	325.6	318.3
75°	672.9	416.8	292.7	267.0	263.5
77.5°	530.6	296.1	230.6	215.8	208.4
80°	398.6	212.3	175.4	161.0	161.0
82.5°	277.9	142.8	120.7	113.3	113.3
85°	157.2	80.4	69.4	69.4	69.4
87.5°	58.6	29.1	29.1	25.6	25.6
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	15.29	16.81	15.65	17.12	17.44	11.25	12.77	11.61	13.08	13.40
	3H	17.05	18.42	17.43	18.75	19.11	12.51	13.88	12.89	14.21	14.57
	4H	17.72	19.00	18.12	19.35	19.73	13.02	14.30	13.42	14.64	15.02
	6H	18.21	19.39	18.62	19.76	20.15	13.40	14.58	13.81	14.95	15.34
	8H	18.37	19.50	18.80	19.89	20.29	13.52	14.65	13.95	15.04	15.44
	12H	18.48	19.56	18.91	19.94	20.37	13.60	14.68	14.03	15.06	15.49
4H	2H	15.39	16.67	15.79	17.02	17.40	11.94	13.22	12.34	13.57	13.95
	3H	17.33	18.39	17.74	18.79	19.19	13.39	14.45	13.80	14.85	15.25
	4H	18.07	19.03	18.51	19.45	19.89	13.99	14.94	14.42	15.36	15.80
	6H	18.67	19.50	19.12	19.94	20.40	14.47	15.31	14.93	15.75	16.21
	8H	18.88	19.66	19.34	20.10	20.57	14.64	15.41	15.10	15.86	16.33
	12H	19.03	19.73	19.52	20.21	20.68	14.75	15.45	15.24	15.93	16.40
8H	4H	18.10	18.88	18.56	19.32	19.79	14.34	15.12	14.80	15.56	16.03
	6H	18.74	19.38	19.23	19.87	20.35	14.93	15.57	15.42	16.06	16.54
	8H	18.99	19.56	19.50	20.07	20.56	15.15	15.72	15.66	16.23	16.72
	12H	19.19	19.70	19.70	20.19	20.76	15.33	15.84	15.84	16.33	16.89
12H	4H	18.08	18.78	18.57	19.26	19.73	14.38	15.08	14.87	15.56	16.03
	6H	18.72	19.29	19.23	19.80	20.29	14.99	15.57	15.50	16.08	16.57
	8H	19.00	19.51	19.51	20.00	20.57	15.26	15.77	15.77	16.27	16.83