

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: P931535

Luminaire Tested: DFN2DS-TR4F0-090DS835-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931535
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-TR4F0-090DS835-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

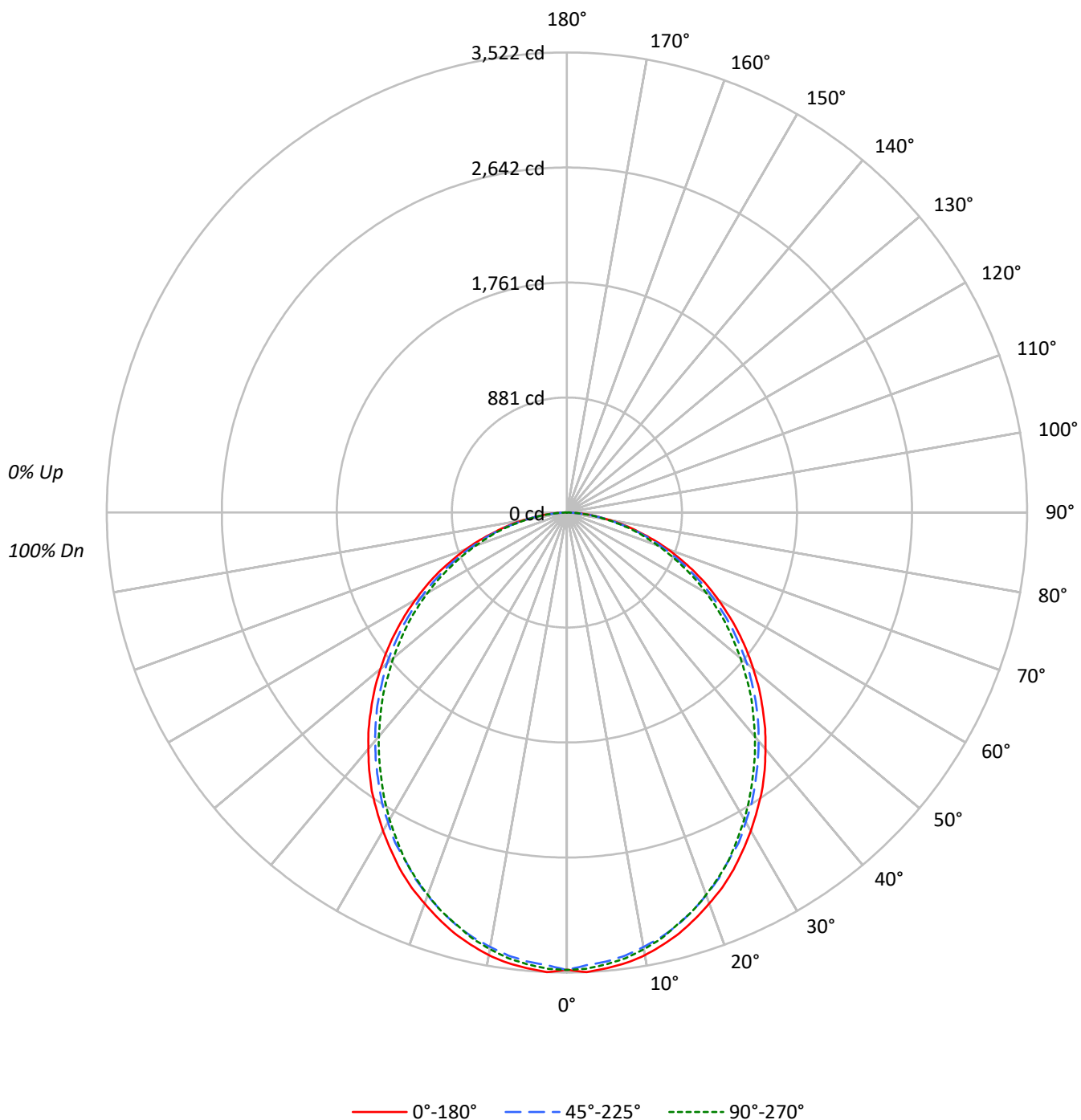
Lumens per Lamp: N/A
Luminaire Lumens: 8910.0 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 93.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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°	2782	2782	2782
5°	2793	2753	2769
10°	2776	2725	2738
15°	2742	2689	2687
20°	2693	2636	2633
25°	2645	2571	2571
30°	2583	2511	2490
35°	2525	2440	2404
40°	2452	2368	2322
45°	2380	2296	2240
50°	2301	2222	2143
55°	2220	2136	2057
60°	2129	2033	1958
65°	2032	1931	1842
70°	1909	1807	1721
75°	1736	1664	1623
80°	1541	1494	1417
85°	1257	1199	1075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2380 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.6	3.7
10°-20°	927.4	10.4
20°-30°	1362.9	15.3
30°-40°	1582.9	17.8
40°-50°	1580.9	17.7
50°-60°	1378.5	15.5
60°-70°	1019.0	11.4
70°-80°	576.6	6.5
80°-90°	152.2	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°	2619.9	29.4
0°-40°	4202.8	47.2
0°-60°	7162.3	80.4
0°-90°	8910.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8910.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3502	3502	3502	3502	3502	
5°	3502	3489	3452	3478	3472	332
15°	3334	3314	3270	3283	3266	939
25°	3017	2990	2933	2940	2933	1388
35°	2603	2570	2516	2495	2478	1626
45°	2118	2095	2044	2007	1994	1635
55°	1603	1583	1542	1502	1485	1433
65°	1081	1061	1027	997	980	1069
75°	566	559	542	522	529	604
85°	138	135	132	121	118	162
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3501.9	3501.9	3501.9	3501.9	3501.9
2.5°	3522.3	3505.5	3468.4	3501.9	3495.5
5°	3501.9	3488.7	3451.6	3478.4	3471.9
7.5°	3478.4	3458.4	3421.2	3448.4	3441.6
10°	3441.6	3418.0	3377.6	3404.4	3394.4
12.5°	3390.8	3370.8	3330.5	3347.2	3340.5
15°	3333.7	3313.7	3269.7	3283.3	3266.5
17.5°	3262.9	3242.9	3199.0	3215.8	3199.0
20°	3185.4	3165.4	3118.2	3128.2	3115.0
22.5°	3108.2	3077.9	3033.9	3033.9	3027.1
25°	3017.1	2990.3	2933.2	2939.6	2933.2
27.5°	2916.0	2892.4	2848.9	2838.9	2822.1
30°	2815.3	2788.1	2737.7	2727.7	2714.2
32.5°	2707.4	2687.4	2633.4	2613.1	2599.5
35°	2603.1	2569.5	2515.5	2495.2	2478.4
37.5°	2485.2	2454.8	2400.8	2377.3	2360.5
40°	2364.0	2336.9	2282.9	2252.9	2239.4
42.5°	2246.1	2219.0	2165.4	2131.5	2111.5
45°	2118.2	2094.7	2043.9	2007.1	1993.6
47.5°	1993.6	1970.0	1916.0	1878.9	1858.9
50°	1862.1	1845.3	1798.1	1751.0	1734.2
52.5°	1734.2	1710.6	1667.0	1629.9	1606.3
55°	1603.1	1582.7	1542.3	1502.0	1485.2
57.5°	1471.6	1454.8	1410.9	1370.5	1356.9
60°	1340.1	1326.9	1279.7	1242.6	1232.6
62.5°	1212.2	1188.6	1155.0	1121.5	1107.9
65°	1081.1	1060.7	1027.1	996.8	980.0
67.5°	946.4	929.3	899.2	875.7	862.1
70°	821.7	808.1	777.8	754.2	741.0
72.5°	693.8	680.2	663.4	639.9	629.9
75°	565.6	559.1	542.0	522.0	528.8
77.5°	451.2	437.7	430.9	420.9	410.9
80°	336.9	333.3	326.5	316.5	309.8
82.5°	229.0	229.0	225.8	212.2	212.2
85°	137.9	134.7	131.5	121.1	117.9
87.5°	60.7	53.9	47.2	37.2	33.6
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	14.84	16.45	15.20	16.76	17.08	14.39	16.00	14.76	16.32	16.63
	3H	16.59	18.04	16.96	18.37	18.73	16.10	17.55	16.47	17.88	18.24
	4H	17.23	18.60	17.63	18.95	19.33	16.74	18.11	17.14	18.46	18.83
	6H	17.70	18.97	18.11	19.34	19.73	17.20	18.47	17.61	18.84	19.23
	8H	17.85	19.06	18.27	19.45	19.85	17.34	18.55	17.77	18.94	19.34
	12H	17.94	19.10	18.37	19.48	19.91	17.42	18.58	17.85	18.97	19.39
4H	2H	15.40	16.77	15.80	17.11	17.49	15.05	16.41	15.44	16.76	17.14
	3H	17.37	18.52	17.78	18.92	19.32	16.97	18.11	17.38	18.51	18.91
	4H	18.15	19.19	18.58	19.60	20.04	17.73	18.76	18.16	19.18	19.61
	6H	18.75	19.65	19.20	20.09	20.55	18.31	19.22	18.77	19.66	20.12
	8H	18.94	19.78	19.40	20.22	20.69	18.50	19.34	18.96	19.79	20.25
	12H	19.07	19.83	19.55	20.30	20.77	18.62	19.38	19.10	19.85	20.32
8H	4H	18.42	19.27	18.88	19.71	20.18	18.05	18.90	18.51	19.34	19.80
	6H	19.14	19.84	19.63	20.33	20.80	18.76	19.46	19.25	19.95	20.42
	8H	19.40	20.03	19.91	20.53	21.02	19.00	19.64	19.51	20.14	20.63
	12H	19.60	20.15	20.10	20.64	21.21	19.18	19.74	19.69	20.23	20.79
12H	4H	18.45	19.21	18.93	19.68	20.15	18.08	18.84	18.56	19.32	19.79
	6H	19.18	19.81	19.69	20.32	20.81	18.81	19.45	19.32	19.95	20.44
	8H	19.50	20.05	20.00	20.54	21.11	19.12	19.68	19.63	20.17	20.73