

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: P931440

Luminaire Tested: DFN2DS-TR3F0-090DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931440
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-TR3F0-090DS940-RLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

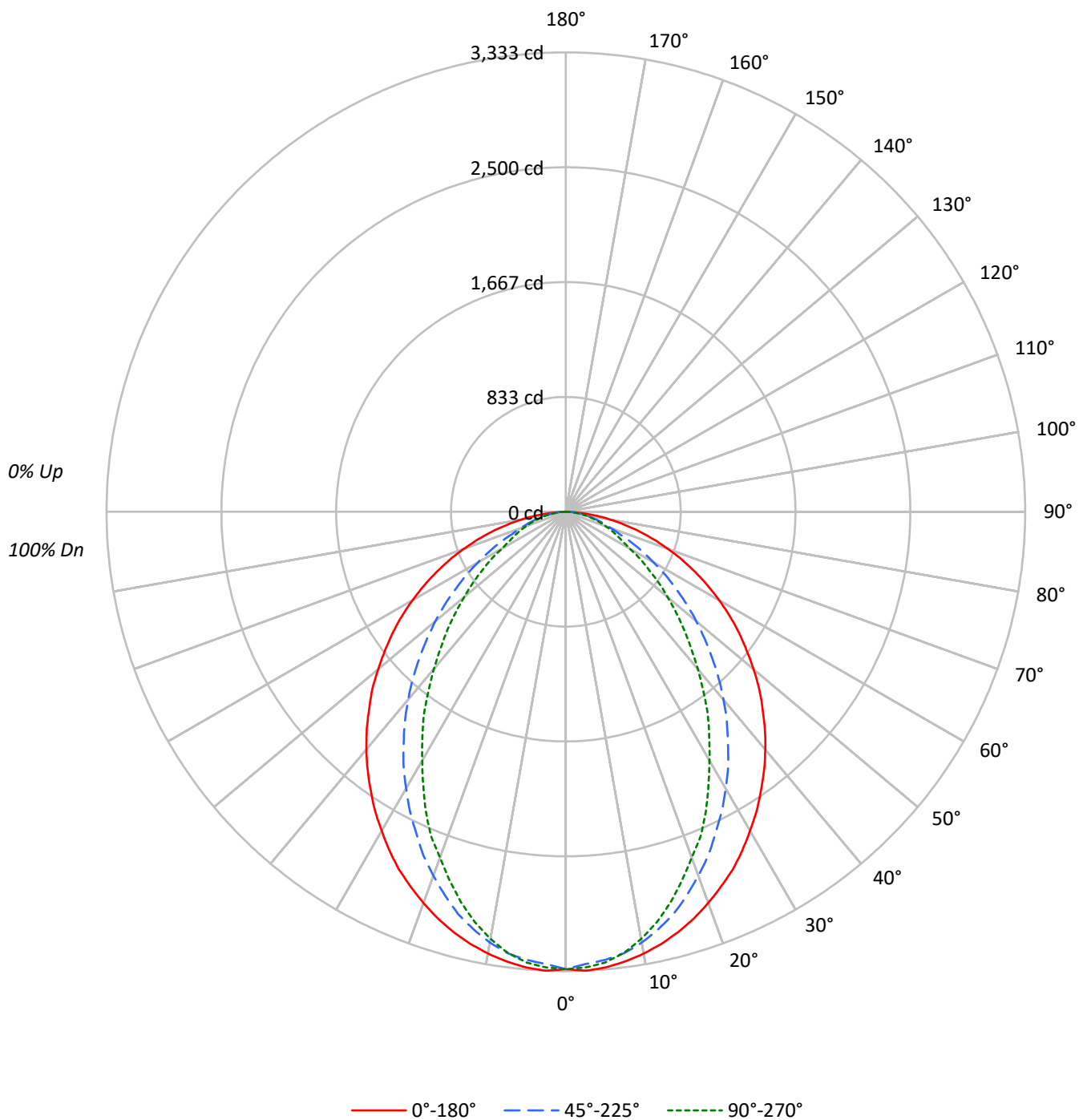
Lumens per Lamp: N/A
Luminaire Lumens: 6823.8 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.16' x L: 2.74' x H: 0')
CIE Type: Direct

Input Watts (W): 99.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	4135	4135	4135
5°	4150	4083	4105
10°	4119	4016	3982
15°	4071	3897	3785
20°	4006	3727	3540
25°	3939	3534	3303
30°	3845	3335	2998
35°	3755	3120	2731
40°	3663	2896	2423
45°	3556	2646	2143
50°	3446	2393	1869
55°	3333	2120	1605
60°	3203	1833	1332
65°	3055	1540	1213
70°	2878	1269	1115
75°	2660	1156	1041
80°	2348	1033	949
85°	1844	815	815

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3556 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.0	4.6
10°-20°	853.7	12.5
20°-30°	1198.5	17.6
30°-40°	1306.5	19.1
40°-50°	1200.8	17.6
50°-60°	943.0	13.8
60°-70°	613.8	9.0
70°-80°	316.0	4.6
80°-90°	80.7	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°	2363.1	34.6
0°-40°	3669.6	53.8
0°-60°	5813.4	85.2
0°-90°	6823.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6823.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3318	3318	3318	3318	3318	
5°	3318	3303	3264	3291	3282	315
15°	3156	3123	3021	2964	2934	889
25°	2865	2768	2570	2447	2402	1317
35°	2468	2315	2051	1862	1796	1545
45°	2018	1817	1501	1288	1216	1558
55°	1534	1300	976	796	739	1371
65°	1036	793	522	420	411	1027
75°	552	342	240	219	216	584
85°	129	66	57	57	57	155
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3318.0	3318.0	3318.0	3318.0	3318.0
2.5°	3333.0	3318.0	3284.8	3315.1	3309.1
5°	3318.0	3303.0	3263.8	3290.9	3281.9
7.5°	3290.9	3273.0	3231.0	3242.8	3227.8
10°	3254.9	3233.9	3174.0	3164.7	3146.9
12.5°	3210.0	3182.9	3101.7	3083.8	3050.6
15°	3155.8	3122.7	3020.8	2963.7	2933.8
17.5°	3092.7	3044.7	2918.4	2852.5	2804.4
20°	3020.8	2960.5	2810.4	2735.6	2669.3
22.5°	2942.7	2873.6	2699.3	2597.3	2552.5
25°	2864.7	2768.4	2570.3	2447.3	2402.1
27.5°	2771.6	2669.3	2450.1	2309.0	2239.9
30°	2672.5	2558.2	2318.0	2165.1	2083.8
32.5°	2576.3	2438.0	2192.1	2011.8	1936.6
35°	2468.3	2315.1	2051.0	1861.8	1795.5
37.5°	2363.2	2197.9	1918.8	1711.4	1636.6
40°	2252.0	2072.0	1780.5	1567.4	1489.4
42.5°	2137.9	1945.9	1642.5	1420.2	1345.3
45°	2017.9	1816.6	1501.4	1288.0	1216.0
47.5°	1903.8	1690.7	1366.4	1152.9	1087.0
50°	1777.7	1564.5	1234.2	1026.8	964.0
52.5°	1654.4	1429.2	1108.0	909.8	852.8
55°	1534.2	1300.1	975.8	795.8	738.8
57.5°	1411.3	1171.1	858.9	690.7	642.6
60°	1285.1	1044.9	735.6	582.7	534.6
62.5°	1162.2	922.0	630.5	486.5	462.6
65°	1036.0	792.6	522.4	420.5	411.3
67.5°	915.9	672.5	420.5	369.2	360.3
70°	789.8	555.6	348.2	318.3	306.1
72.5°	669.6	447.2	291.1	267.2	261.3
75°	552.4	342.2	240.2	219.2	216.3
77.5°	435.5	243.1	189.2	177.2	171.1
80°	327.2	174.3	144.0	132.2	132.2
82.5°	228.1	117.2	99.1	93.0	93.0
85°	129.0	65.9	57.0	57.0	57.0
87.5°	48.1	23.9	23.9	21.1	21.1
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	16.17	17.69	16.53	18.00	18.32	12.13	13.65	12.49	13.96	14.28
	3H	17.93	19.30	18.31	19.62	19.99	13.39	14.76	13.77	15.08	15.45
	4H	18.60	19.88	19.00	20.23	20.61	13.89	15.17	14.29	15.52	15.90
	6H	19.09	20.27	19.50	20.64	21.03	14.27	15.46	14.69	15.82	16.22
	8H	19.25	20.38	19.68	20.77	21.17	14.40	15.53	14.83	15.92	16.32
	12H	19.36	20.43	19.79	20.82	21.24	14.48	15.56	14.91	15.94	16.37
4H	2H	16.27	17.55	16.67	17.90	18.28	12.82	14.10	13.22	14.45	14.83
	3H	18.20	19.27	18.61	19.67	20.07	14.27	15.33	14.68	15.73	16.13
	4H	18.95	19.91	19.39	20.33	20.76	14.86	15.82	15.30	16.24	16.68
	6H	19.54	20.38	20.00	20.82	21.28	15.35	16.19	15.81	16.63	17.09
	8H	19.76	20.54	20.22	20.98	21.45	15.51	16.29	15.98	16.74	17.20
	12H	19.91	20.61	20.39	21.09	21.56	15.63	16.33	16.11	16.80	17.28
8H	4H	18.98	19.75	19.44	20.20	20.67	15.22	16.00	15.68	16.44	16.91
	6H	19.61	20.26	20.11	20.75	21.23	15.81	16.45	16.30	16.94	17.42
	8H	19.86	20.44	20.38	20.95	21.44	16.03	16.60	16.54	17.11	17.60
	12H	20.07	20.58	20.58	21.07	21.64	16.21	16.72	16.71	17.21	17.77
12H	4H	18.96	19.66	19.44	20.13	20.61	15.26	15.96	15.74	16.43	16.91
	6H	19.60	20.17	20.11	20.68	21.17	15.87	16.45	16.38	16.96	17.44
	8H	19.88	20.39	20.39	20.88	21.45	16.14	16.65	16.65	17.14	17.71