

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: P931430

Luminaire Tested: DFN2DS-TR3F0-090DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931430
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-TR3F0-090DS840-RLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

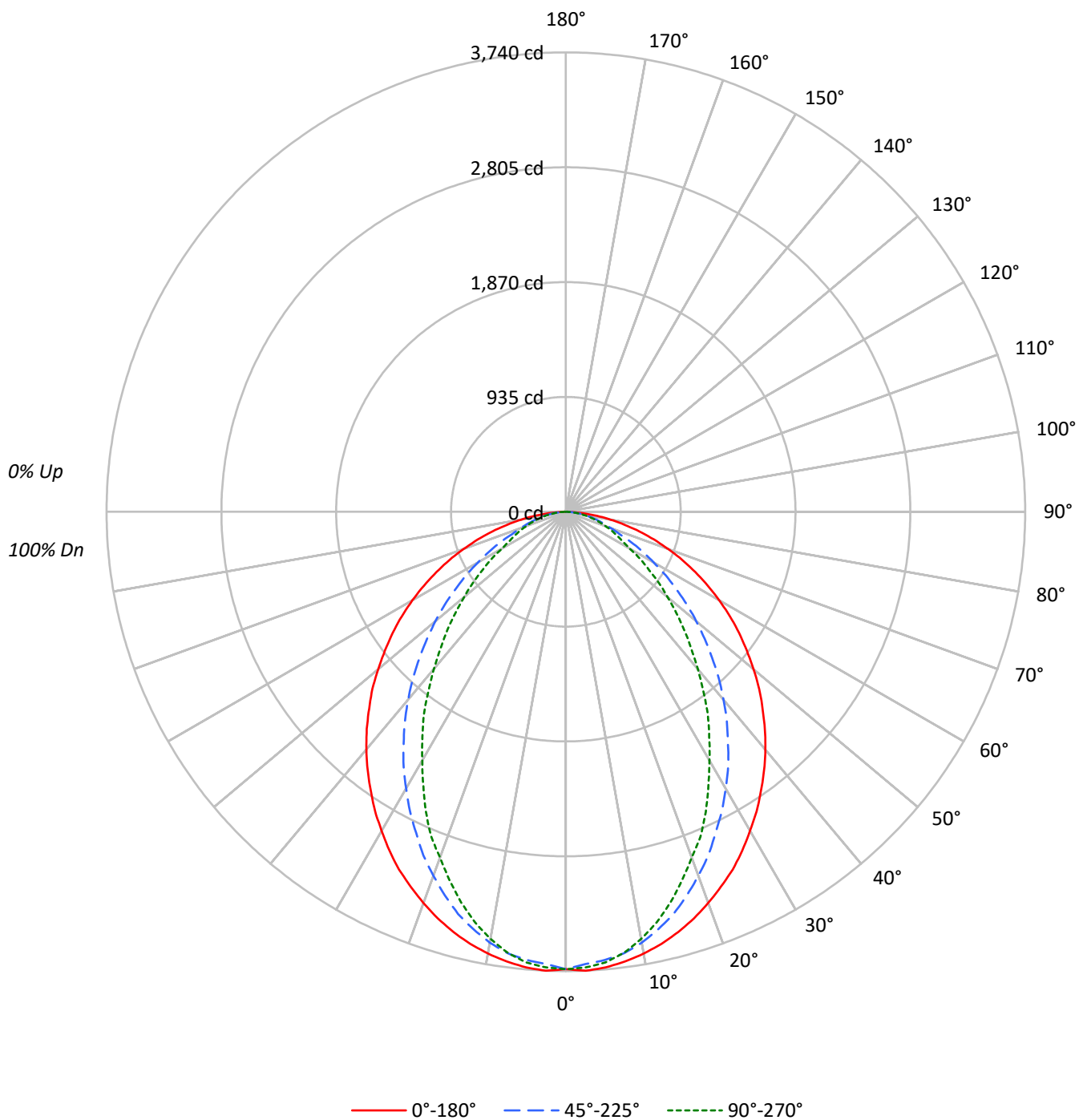
Lumens per Lamp: N/A
Luminaire Lumens: 7657.7 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.16' x L: 2.74' x H: 0')
CIE Type: Direct

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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4640	4640	4640
5°	4657	4582	4607
10°	4622	4507	4468
15°	4569	4373	4247
20°	4495	4182	3972
25°	4420	3966	3706
30°	4315	3743	3365
35°	4214	3501	3065
40°	4111	3250	2719
45°	3991	2969	2405
50°	3867	2685	2097
55°	3740	2379	1801
60°	3594	2057	1495
65°	3428	1729	1361
70°	3229	1424	1251
75°	2985	1298	1168
80°	2635	1160	1064
85°	2069	915	915

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3991 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.0	4.6
10°-20°	958.0	12.5
20°-30°	1345.0	17.6
30°-40°	1466.1	19.1
40°-50°	1347.5	17.6
50°-60°	1058.3	13.8
60°-70°	688.8	9.0
70°-80°	354.6	4.6
80°-90°	90.5	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°	2651.9	34.6
0°-40°	4118.0	53.8
0°-60°	6523.8	85.2
0°-90°	7657.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7657.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3723	3723	3723	3723	3723	
5°	3723	3707	3663	3693	3683	353
15°	3541	3504	3390	3326	3292	998
25°	3215	3107	2884	2746	2696	1478
35°	2770	2598	2302	2089	2015	1734
45°	2264	2038	1685	1445	1365	1749
55°	1722	1459	1095	893	829	1539
65°	1163	890	586	472	462	1153
75°	620	384	270	246	243	656
85°	145	74	64	64	64	174
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3723.4	3723.4	3723.4	3723.4	3723.4
2.5°	3740.2	3723.4	3686.2	3720.2	3713.4
5°	3723.4	3706.6	3662.7	3693.0	3683.0
7.5°	3693.0	3673.0	3625.8	3639.0	3622.2
10°	3652.6	3629.0	3561.9	3551.4	3531.4
12.5°	3602.2	3571.9	3480.7	3460.7	3423.4
15°	3541.4	3504.3	3389.9	3325.8	3292.3
17.5°	3470.7	3416.7	3275.1	3201.1	3147.1
20°	3389.9	3322.3	3153.9	3069.9	2995.5
22.5°	3302.3	3224.7	3029.1	2914.7	2864.4
25°	3214.7	3106.7	2884.4	2746.3	2695.6
27.5°	3110.3	2995.5	2749.5	2591.2	2513.6
30°	2999.1	2870.8	2601.2	2429.6	2338.4
32.5°	2891.1	2735.9	2460.0	2257.7	2173.3
35°	2770.0	2598.0	2301.6	2089.3	2014.9
37.5°	2651.9	2466.5	2153.3	1920.5	1836.5
40°	2527.2	2325.2	1998.1	1759.0	1671.4
42.5°	2399.2	2183.7	1843.2	1593.8	1509.7
45°	2264.5	2038.5	1684.9	1445.3	1364.6
47.5°	2136.4	1897.3	1533.3	1293.8	1219.8
50°	1994.9	1755.7	1385.0	1152.3	1081.8
52.5°	1856.6	1603.8	1243.4	1021.0	957.1
55°	1721.7	1459.0	1095.0	893.1	829.0
57.5°	1583.8	1314.2	963.9	775.1	721.1
60°	1442.1	1172.6	825.5	653.9	599.9
62.5°	1304.2	1034.6	707.5	545.9	519.1
65°	1162.6	889.5	586.3	471.9	461.6
67.5°	1027.8	754.7	471.9	414.3	404.3
70°	886.3	623.5	390.8	357.2	343.5
72.5°	751.5	501.9	326.7	299.9	293.2
75°	619.9	384.0	269.6	245.9	242.7
77.5°	488.7	272.8	212.3	198.8	192.0
80°	367.2	195.6	161.6	148.3	148.3
82.5°	256.0	131.5	111.2	104.4	104.4
85°	144.7	74.0	64.0	64.0	64.0
87.5°	54.0	26.8	26.8	23.6	23.6
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	16.57	18.09	16.93	18.40	18.72	12.53	14.05	12.89	14.36	14.68
	3H	18.33	19.70	18.71	20.03	20.39	13.79	15.16	14.17	15.49	15.85
	4H	19.00	20.28	19.40	20.63	21.01	14.29	15.57	14.69	15.92	16.30
	6H	19.49	20.67	19.90	21.04	21.43	14.67	15.86	15.09	16.22	16.62
	8H	19.65	20.78	20.08	21.17	21.57	14.80	15.93	15.23	16.32	16.72
	12H	19.76	20.83	20.19	21.22	21.65	14.88	15.96	15.31	16.34	16.77
4H	2H	16.67	17.95	17.07	18.30	18.68	13.22	14.50	13.62	14.85	15.23
	3H	18.60	19.67	19.01	20.07	20.47	14.67	15.73	15.08	16.13	16.53
	4H	19.35	20.31	19.79	20.73	21.16	15.27	16.22	15.70	16.64	17.08
	6H	19.95	20.78	20.40	21.22	21.68	15.75	16.59	16.21	17.03	17.49
	8H	20.16	20.94	20.62	21.38	21.85	15.92	16.69	16.38	17.14	17.60
	12H	20.31	21.01	20.80	21.49	21.96	16.03	16.73	16.51	17.21	17.68
8H	4H	19.38	20.15	19.84	20.60	21.07	15.62	16.40	16.08	16.84	17.31
	6H	20.02	20.66	20.51	21.15	21.63	16.21	16.85	16.70	17.34	17.82
	8H	20.27	20.84	20.78	21.35	21.84	16.43	17.00	16.94	17.51	18.00
	12H	20.47	20.98	20.98	21.47	22.04	16.61	17.12	17.12	17.61	18.17
12H	4H	19.36	20.06	19.84	20.53	21.01	15.66	16.36	16.14	16.84	17.31
	6H	20.00	20.57	20.51	21.08	21.57	16.27	16.85	16.78	17.36	17.84
	8H	20.28	20.79	20.79	21.28	21.85	16.54	17.05	17.05	17.54	18.11