

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: P930252

Luminaire Tested: DFN2DS-HX3F0-090DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930252
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-HX3F0-090DS940-RLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

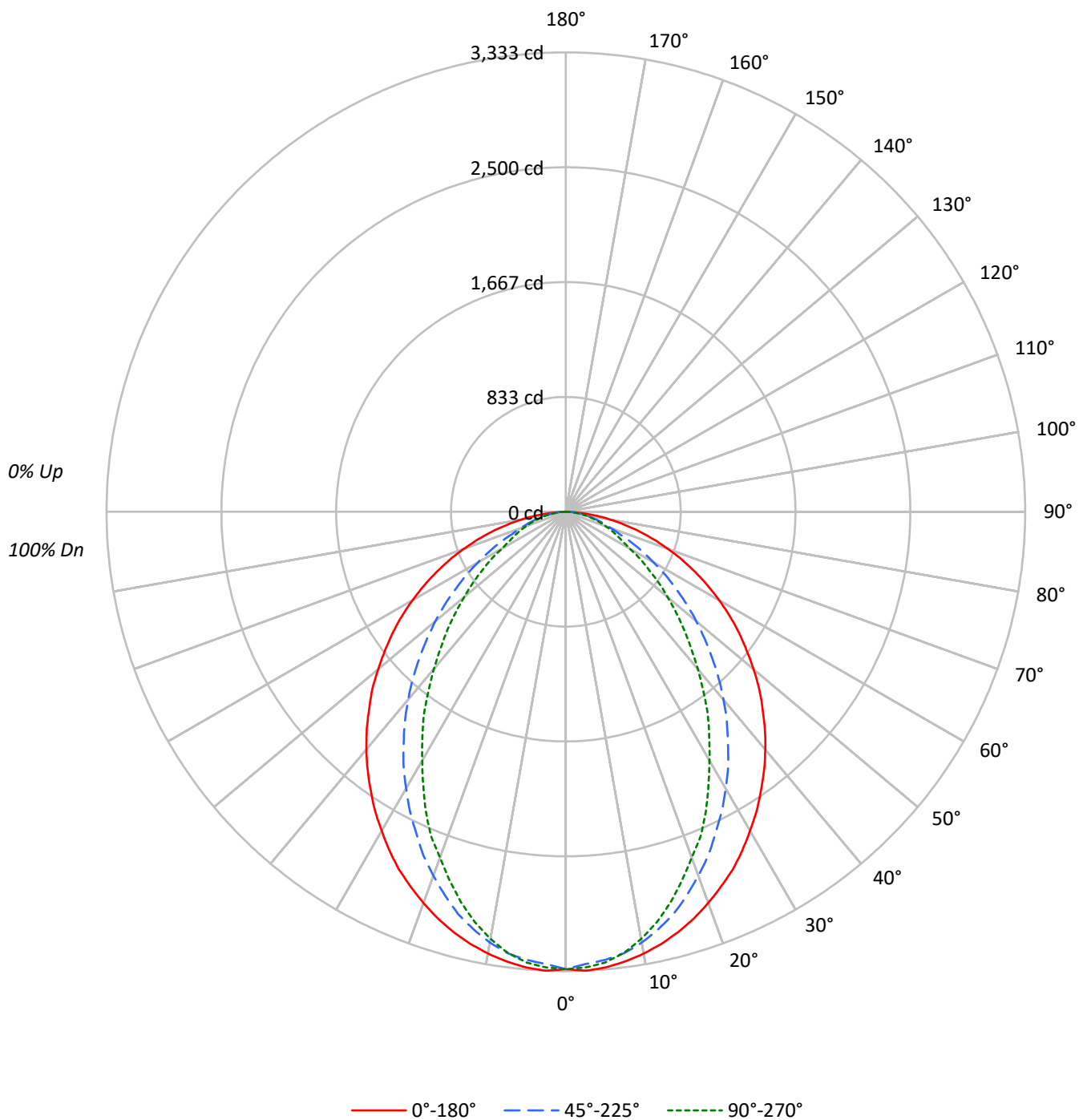
Lumens per Lamp: N/A
Luminaire Lumens: 6823.8 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.28' x L: 2.84' x H: 0')
CIE Type: Direct

Input Watts (W): 97.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930252

CATALOG NUMBER: DFN2DS-HX3F0-090DS940-RLL

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°	3843	3843	3843
5°	3858	3795	3816
10°	3828	3733	3701
15°	3784	3623	3518
20°	3724	3464	3290
25°	3661	3285	3070
30°	3575	3100	2787
35°	3490	2900	2539
40°	3405	2692	2252
45°	3306	2460	1992
50°	3204	2224	1737
55°	3098	1971	1492
60°	2977	1704	1239
65°	2840	1432	1127
70°	2675	1179	1037
75°	2472	1075	968
80°	2183	961	882
85°	1714	758	758

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3306 cd/sqm

TEST NUMBER: P930252

CATALOG NUMBER: DFN2DS-HX3F0-090DS940-RLL

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	15.91	17.43	16.28	17.75	18.06	11.87	13.39	12.24	13.71	14.02
	3H	17.68	19.04	18.06	19.37	19.73	13.14	14.50	13.52	14.83	15.19
	4H	18.34	19.62	18.74	19.97	20.35	13.64	14.92	14.04	15.27	15.65
	6H	18.83	20.02	19.25	20.38	20.77	14.02	15.20	14.43	15.57	15.96
	8H	19.00	20.12	19.42	20.51	20.92	14.15	15.27	14.57	15.66	16.06
	12H	19.10	20.18	19.53	20.56	20.99	14.23	15.30	14.66	15.69	16.12
4H	2H	16.02	17.30	16.42	17.65	18.02	12.57	13.85	12.97	14.20	14.58
	3H	17.95	19.01	18.36	19.41	19.81	14.01	15.07	14.42	15.47	15.88
	4H	18.70	19.66	19.13	20.07	20.51	14.61	15.57	15.04	15.98	16.42
	6H	19.29	20.12	19.75	20.57	21.03	15.10	15.93	15.56	16.37	16.83
	8H	19.51	20.28	19.97	20.73	21.19	15.26	16.04	15.72	16.48	16.95
	12H	19.66	20.35	20.14	20.83	21.30	15.38	16.07	15.86	16.55	17.02
8H	4H	18.72	19.50	19.19	19.94	20.41	14.96	15.74	15.43	16.19	16.65
	6H	19.36	20.00	19.86	20.49	20.97	15.55	16.19	16.05	16.69	17.16
	8H	19.61	20.19	20.13	20.70	21.19	15.77	16.35	16.29	16.86	17.35
	12H	19.82	20.33	20.32	20.82	21.38	15.95	16.46	16.46	16.95	17.52
12H	4H	18.71	19.40	19.19	19.88	20.35	15.01	15.70	15.49	16.18	16.65
	6H	19.34	19.92	19.86	20.43	20.92	15.61	16.19	16.13	16.70	17.19
	8H	19.63	20.14	20.14	20.63	21.19	15.89	16.40	16.40	16.89	17.45