

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: P917924

Luminaire Tested: DFN2DIP-TR2F0-030D030US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917924
REPORT IS A COMBINATION OF REPORTS P900233 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D030US930-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

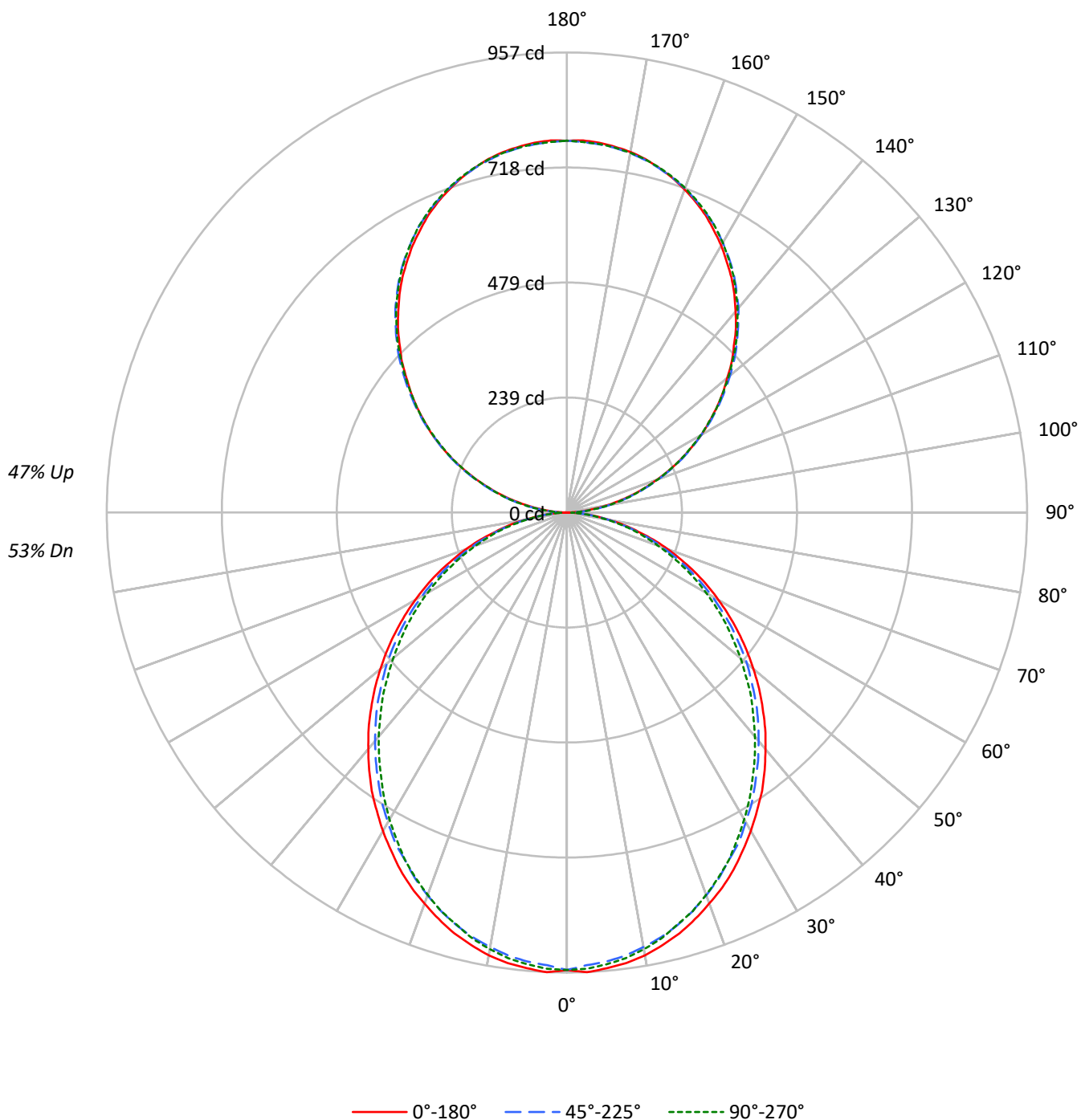
Lumens per Lamp: N/A
Luminaire Lumens: 4586.0 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 47
Input Voltage (V): 120
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	30	10
RCR																	
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2123	2123	2123
5°	2123	2088	2103
10°	2103	2056	2071
15°	2069	2017	2023
20°	2024	1965	1974
25°	1979	1904	1918
30°	1923	1847	1847
35°	1871	1781	1773
40°	1807	1714	1702
45°	1742	1646	1629
50°	1672	1575	1545
55°	1598	1492	1467
60°	1514	1395	1378
65°	1421	1294	1272
70°	1304	1171	1158
75°	1144	1023	1047
80°	949	834	847
85°	647	526	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1742 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	2.0
10°-20°	252.0	5.5
20°-30°	370.4	8.1
30°-40°	430.2	9.4
40°-50°	429.7	9.4
50°-60°	374.6	8.2
60°-70°	277.0	6.0
70°-80°	156.7	3.4
80°-90°	43.5	0.9
90°-100°	47.9	1.0
100°-110°	152.1	3.3
110°-120°	260.3	5.7
120°-130°	342.3	7.5
130°-140°	384.2	8.4
140°-150°	376.8	8.2
150°-160°	316.1	6.9
160°-170°	209.6	4.6
170°-180°	73.3	1.6
0°-30°	712.0	15.5
0°-40°	1142.2	24.9
0°-60°	1946.5	42.4
0°-90°	2423.6	52.8
90°-120°	460.2	10.0
90°-150°	1563.5	34.1
90°-180°	2162.0	47.1
0°-180°	4586.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	952	952	952	952	952	
5°	952	948	938	945	944	90
15°	906	901	889	892	888	255
25°	820	813	797	799	797	377
35°	707	698	684	678	674	442
45°	576	569	556	545	542	444
55°	436	430	419	408	404	390
65°	294	288	279	271	266	290
75°	154	152	147	142	144	164
85°	38	37	36	33	32	42
90°	1	8	23	21	22	4
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	951.7	951.7	951.7	951.7	951.7
2.5°	957.2	952.7	942.6	951.7	950.0
5°	951.7	948.1	938.0	945.3	943.5
7.5°	945.3	939.9	929.8	937.2	935.3
10°	935.3	928.9	917.9	925.2	922.5
12.5°	921.5	916.1	905.1	909.6	907.8
15°	906.0	900.6	888.6	892.3	887.7
17.5°	886.7	881.3	869.4	873.9	869.4
20°	865.7	860.2	847.4	850.1	846.5
22.5°	844.7	836.5	824.5	824.5	822.6
25°	819.9	812.7	797.1	798.9	797.1
27.5°	792.5	786.0	774.2	771.5	767.0
30°	765.1	757.7	744.0	741.3	737.6
32.5°	735.8	730.3	715.7	710.1	706.5
35°	707.4	698.3	683.6	678.1	673.5
37.5°	675.4	667.2	652.5	646.0	641.5
40°	642.5	635.1	620.4	612.3	608.6
42.5°	610.4	603.1	588.5	579.3	573.8
45°	575.7	569.2	555.5	545.4	541.8
47.5°	541.8	535.4	520.7	510.6	505.2
50°	506.1	501.5	488.7	475.9	471.3
52.5°	471.3	464.9	453.1	443.0	436.5
55°	435.7	430.2	419.1	408.2	403.7
57.5°	399.9	395.3	383.4	372.4	368.8
60°	364.2	360.6	347.8	337.7	335.0
62.5°	329.5	323.0	313.9	304.8	301.1
65°	293.8	288.3	279.2	270.9	266.4
67.5°	257.2	252.6	244.3	238.0	234.3
70°	223.3	219.6	211.4	205.0	201.4
72.5°	188.6	184.8	180.3	173.9	171.2
75°	153.7	152.0	147.3	141.9	143.7
77.5°	122.6	119.0	117.1	114.4	111.7
80°	91.6	90.6	88.7	86.0	84.2
82.5°	62.2	62.2	61.4	57.6	57.6
85°	37.5	36.6	35.7	32.9	32.0
87.5°	16.5	14.7	12.8	10.1	9.1
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6

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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	10.02	10.90	10.95	11.85	13.08	9.59	10.48	10.52	11.43	12.66
	3H	11.66	12.45	12.60	13.41	14.66	11.19	11.99	12.14	12.95	14.20
	4H	12.23	12.98	13.19	13.95	15.21	11.77	12.52	12.73	13.49	14.75
	6H	12.61	13.31	13.58	14.27	15.55	12.15	12.85	13.12	13.82	15.09
	8H	12.71	13.37	13.68	14.35	15.63	12.25	12.91	13.23	13.90	15.17
	12H	12.75	13.38	13.73	14.36	15.65	12.29	12.91	13.27	13.89	15.19
4H	2H	10.47	11.23	11.44	12.19	13.45	10.13	10.89	11.10	11.85	13.11
	3H	12.31	12.94	13.29	13.93	15.21	11.93	12.56	12.90	13.55	14.83
	4H	13.01	13.58	13.99	14.57	15.87	12.62	13.19	13.60	14.18	15.48
	6H	13.50	14.00	14.50	15.01	16.31	13.11	13.60	14.10	14.61	15.91
	8H	13.64	14.11	14.64	15.11	16.42	13.25	13.71	14.24	14.71	16.03
	12H	13.71	14.12	14.72	15.14	16.46	13.30	13.72	14.32	14.74	16.06
8H	4H	13.20	13.66	14.19	14.66	15.98	12.85	13.31	13.84	14.31	15.63
	6H	13.80	14.19	14.82	15.23	16.54	13.45	13.83	14.47	14.88	16.19
	8H	14.01	14.35	15.04	15.38	16.71	13.65	13.99	14.68	15.02	16.35
	12H	14.13	14.42	15.16	15.45	16.82	13.76	14.05	14.79	15.08	16.45
12H	4H	13.18	13.60	14.20	14.62	15.94	12.84	13.26	13.85	14.28	15.60
	6H	13.83	14.17	14.86	15.20	16.53	13.49	13.83	14.52	14.86	16.19
	8H	14.05	14.35	15.09	15.38	16.75	13.71	14.01	14.74	15.03	16.41