

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: P915192

Luminaire Tested: DFN2DIP-TR2F0-030D020US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915192
REPORT IS A COMBINATION OF REPORTS P900223 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D020US927-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

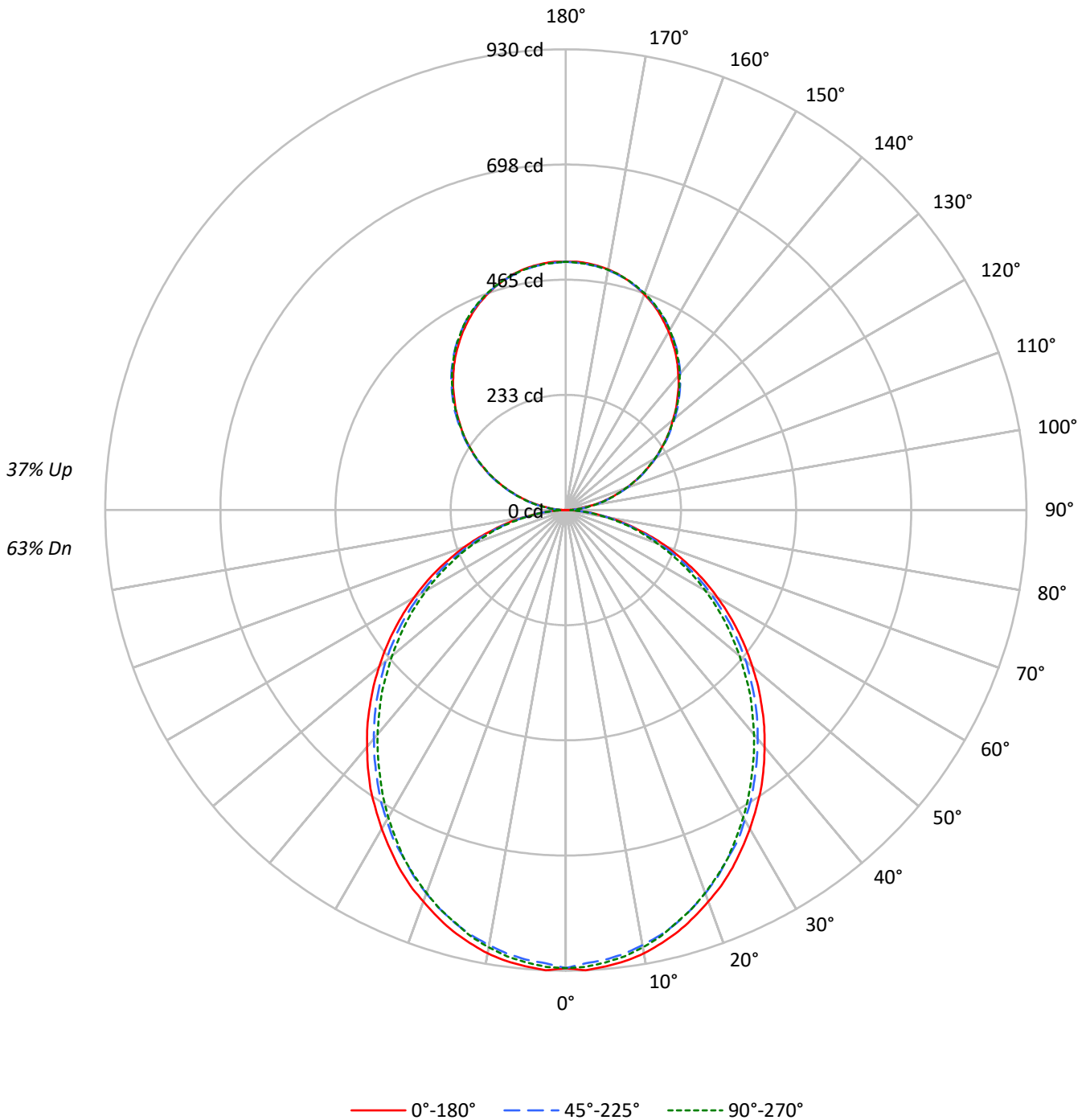
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3754.9 lumens
Efficiency: N/A
Efficacy: 92.7 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: Semi-Direct

Input Watts (W): 40.5
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	110	110	110	110	103	103	103	103	90	90	90	79	79	79	68	68	68	68	68	68	63
1	101	96	92	89	94	90	87	84	79	77	74	69	67	66	60	59	57	60	59	57	53
2	92	84	78	72	86	79	73	69	70	65	62	61	58	55	53	50	48	53	50	48	44
3	84	74	66	60	78	70	63	58	61	56	52	54	50	46	47	44	41	47	44	41	37
4	77	66	57	51	71	62	54	49	55	49	44	48	43	40	42	38	35	42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38	43	38	35	38	34	31	38	34	31	28
6	65	53	44	38	61	50	42	37	44	38	33	39	34	30	34	30	27	34	30	27	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	31	27	24	31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	29	25	22	20
9	52	40	32	27	49	38	30	26	34	28	24	30	25	22	27	23	20	27	23	20	18
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2062	2062	2062
5°	2063	2029	2044
10°	2043	1997	2013
15°	2010	1960	1966
20°	1966	1910	1918
25°	1923	1850	1864
30°	1869	1795	1795
35°	1818	1730	1723
40°	1755	1665	1654
45°	1693	1599	1583
50°	1624	1530	1502
55°	1552	1450	1426
60°	1471	1356	1339
65°	1381	1257	1236
70°	1268	1138	1125
75°	1111	994	1018
80°	922	811	822
85°	628	511	510

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1693 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	2.3
10°-20°	244.9	6.5
20°-30°	359.9	9.6
30°-40°	418.0	11.1
40°-50°	417.5	11.1
50°-60°	364.0	9.7
60°-70°	269.1	7.2
70°-80°	152.3	4.1
80°-90°	41.6	1.1
90°-100°	31.0	0.8
100°-110°	98.5	2.6
110°-120°	168.6	4.5
120°-130°	221.7	5.9
130°-140°	248.9	6.6
140°-150°	244.1	6.5
150°-160°	204.7	5.5
160°-170°	135.8	3.6
170°-180°	47.5	1.3
0°-30°	691.8	18.4
0°-40°	1109.8	29.6
0°-60°	1891.3	50.4
0°-90°	2354.2	62.7
90°-120°	298.1	7.9
90°-150°	1012.8	27.0
90°-180°	1401.0	37.3
0°-180°	3754.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	921	911	918	917	88
15°	880	875	863	867	862	248
25°	797	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	286	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	41
90°	0	6	15	14	14	4
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.7	924.7	924.7	924.7	924.7
2.5°	930.1	925.7	915.8	924.7	923.0
5°	924.7	921.2	911.4	918.5	916.8
7.5°	918.5	913.2	903.4	910.6	908.8
10°	908.8	902.5	891.9	899.0	896.4
12.5°	895.4	890.1	879.5	883.8	882.1
15°	880.3	875.0	863.4	867.0	862.5
17.5°	861.6	856.3	844.7	849.1	844.7
20°	841.1	835.8	823.4	826.0	822.5
22.5°	820.8	812.8	801.1	801.1	799.3
25°	796.7	789.6	774.5	776.3	774.5
27.5°	770.0	763.7	752.3	749.6	745.2
30°	743.4	736.3	722.9	720.3	716.7
32.5°	714.9	709.6	695.4	690.0	686.4
35°	687.4	678.5	664.2	658.9	654.4
37.5°	656.2	648.2	634.0	627.7	623.3
40°	624.2	617.1	602.8	594.9	591.4
42.5°	593.1	586.0	571.8	562.8	557.5
45°	559.4	553.1	539.7	530.0	526.4
47.5°	526.4	520.2	506.0	496.1	490.8
50°	491.7	487.3	474.8	462.4	458.0
52.5°	458.0	451.7	440.2	430.4	424.1
55°	423.3	418.0	407.3	396.6	392.2
57.5°	388.6	384.1	372.6	361.9	358.3
60°	353.9	350.4	337.9	328.1	325.5
62.5°	320.1	313.9	305.0	296.1	292.6
65°	285.5	280.1	271.2	263.2	258.8
67.5°	249.9	245.4	237.4	231.2	227.7
70°	217.0	213.4	205.4	199.2	195.7
72.5°	183.2	179.6	175.2	169.0	166.4
75°	149.3	147.7	143.1	137.8	139.7
77.5°	119.1	115.6	113.8	111.1	108.5
80°	89.0	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.7	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
90°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1



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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	10.75	11.74	11.59	12.60	13.68	10.33	11.32	11.17	12.18	13.26
	3H	12.40	13.29	13.25	14.16	15.26	11.94	12.83	12.79	13.70	14.80
	4H	12.98	13.82	13.85	14.69	15.81	12.52	13.36	13.39	14.23	15.35
	6H	13.36	14.14	14.25	15.02	16.15	12.91	13.68	13.79	14.56	15.69
	8H	13.46	14.20	14.35	15.10	16.23	13.01	13.74	13.90	14.65	15.77
	12H	13.51	14.21	14.40	15.11	16.26	13.05	13.75	13.94	14.64	15.80
4H	2H	11.22	12.06	12.09	12.94	14.05	10.88	11.72	11.75	12.60	13.71
	3H	13.07	13.77	13.96	14.68	15.81	12.69	13.39	13.57	14.30	15.43
	4H	13.77	14.41	14.67	15.32	16.47	13.38	14.02	14.27	14.92	16.08
	6H	14.27	14.82	15.18	15.75	16.91	13.88	14.43	14.79	15.36	16.52
	8H	14.41	14.93	15.33	15.85	17.02	14.02	14.53	14.93	15.46	16.63
	12H	14.48	14.95	15.41	15.89	17.07	14.08	14.54	15.01	15.48	16.66
8H	4H	13.97	14.48	14.88	15.41	16.58	13.62	14.13	14.53	15.06	16.23
	6H	14.58	15.00	15.52	15.97	17.14	14.23	14.65	15.17	15.62	16.79
	8H	14.78	15.16	15.73	16.12	17.31	14.43	14.80	15.38	15.76	16.95
	12H	14.90	15.24	15.86	16.19	17.43	14.54	14.87	15.49	15.82	17.06
12H	4H	13.96	14.42	14.89	15.37	16.54	13.61	14.08	14.55	15.02	16.20
	6H	14.60	14.98	15.55	15.94	17.13	14.26	14.64	15.21	15.60	16.79
	8H	14.83	15.17	15.79	16.12	17.35	14.49	14.82	15.44	15.77	17.01